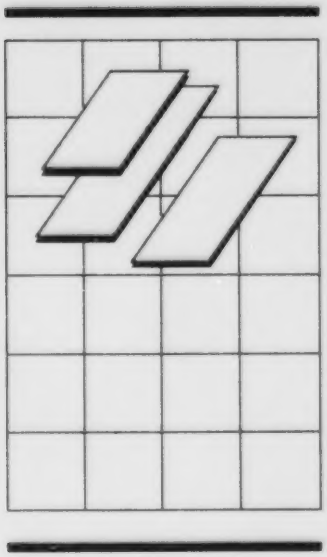

Fire Commissioner's Statistical Report

Alberta

MUNICIPAL AFFAIRS
Fire Commissioner's Office
601 10808 99 Avenue
Edmonton AB T5K 0G5

1998

Acknowledgements:

Data Entry: Val Carmody

Data Analysis: Mahendra Wijayasinghe, Ph.D.

Report Design: Gloria Mercer

Please direct requests for specific analyses of fire loss statistics, and related fire safety information to the Fire Commissioner's Office.

Fire Commissioner's Office
Alberta Municipal Affairs
Room 601, 10808 - 99 Ave.
Edmonton, AB
T5K 0G5
Telephone: (780) 427-8392
Facsimile: (780) 427-5898

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Introduction

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79th Statistical Report of the Fire Commissioner

Fire Commissioner - T.B. Makey

A total of 6,570 fires were recorded for the province in 1998. These fires resulted in 12 fire deaths, eight deaths involving fire (see glossary), 427 injuries and $139 million in property losses. Compared to 1997, fire incidents decreased by 1.5 per cent and the number of fire deaths decreased by 50 per cent (from 24 to 12). Deaths involving fire decreased by 39 per cent (from 13 to 8). The number of injuries decreased by five per cent, while dollar losses decreased by two per cent.

Homes, representing one and two family dwellings, apartments/tenements and mobile homes, accounted for a total of 1,592 fires causing a total of 11 deaths (representing 11 fire deaths and no deaths involving fire), 266 injuries and $45 million in property losses. In 1998, 92 per cent of fire deaths (11 of 12) and 62 per cent of all fire injuries (266 of 427) occurred in home fires. There were no smoke alarms in 41 per cent of the homes that had fires. The primary reason (39 per cent) why smoke alarms did not activate was due to lack of a power source (no battery – 24 per cent; dead battery – six per cent; electricity not connected/off – nine per cent).

All 20-fire deaths for 1998 were civilians, 14 were male and six were female. Two children 6-15 years of age and four seniors over 65 years of age died from fire. 1998 marked the lowest number of fire related deaths for the province since 1971, the year when fire loss reports were first recorded in a computerised database. The major causes of fatal fires involving fire deaths were cooking-equipment-related fires (six); and smoking related fires (three). Seven out of eight deaths involving fires occurred in car or truck fires.

The major functions and challenges of the Fire Commissioner's Office during 1998, relevant to this statistical report, are outlined below:

Fire Loss Statistics

Two research reports, one focusing on the high risk of fire in First Nations reserves and another on vehicle fires, were published in 1998. The study on First Nations reserves, which focused on fires during a 10-year period (1987-1996), revealed:

- First Nations reserves in Alberta suffered an annual average of 89 fires, five each of deaths and injuries, and $2.4 million in property losses.
- First Nations reserves have a fire death rate 4- to 11-fold higher than rural and urban municipalities.
- Breakdown of fires by structural; vehicle; and outdoors in reserves were as follows (65 per cent; 28 per cent; and eight per cent).
- Structural fires on First Nations reserves were in homes, especially, one and two family dwellings followed by mobile homes. Most fires (47 per cent), fire deaths (94 per cent) and fire injuries (70 per cent) occurred in one and two family dwellings and mobile homes.
- Arson and vandalism were the number one cause (20 per cent) of home fires on First Nations reserves. Child fireplay was the second leading cause (19 per cent) of home fires. Smoking (nine per cent) and cooking (six per cent) were the third and fourth leading causes of home fires.
- Another category of properties – buildings condemned, vacant or under construction – also ranked high in fire incidence. Specific analysis of this category revealed arson/vandalism accounts for 43 per cent of these fires, followed by child fireplay at nine per cent, the next frequent cause.

79th Statistical Report of the Fire Commissioner (cont'd)

- The number one cause of home fire deaths was smoking followed by child fireplay, arson/vandalism, cooking and candle related fires.
- In terms of fire injuries, child fireplay and smoking related fires ranked first and second as causes.
- The major causes of vehicle fire losses, particularly cars and general trucks (with non-flammable cargo), when ranked, were as follows: arson/vandalism (22 per cent), mechanical failure (16 per cent), electrical (16 per cent), child fireplay (three per cent), unknown (30 per cent), and other (13 per cent).
- Outdoor fires were predominantly brush/grass/light ground cover and crops, orchards, straw stacks or bales, and the primary causes were: inadequate control of open fire (23 per cent), child fireplay (17 per cent) arson/vandalism (eight per cent), exposure fires (eight per cent), unknown (23 per cent) and other causes (21 per cent).
- First Nations reserves exceed other Albertans in age specific fire death rates, in all age groups where deaths occurred.
- Only 13 per cent of homes on First Nations reserves that experienced fire had smoke alarms installed.
- 86 per cent of deaths occurred where no smoke alarms were present. Only 50 per cent of smoke alarms installed activated during fire.
- Lower socio-economic levels, as indicated by low family income, high unemployment rates, higher proportion of persons on social assistance, lower educational levels and overcrowded housing, on First Nations reserves influence their fire losses.

An article detailing these research findings titled, *Fire Losses on First Nations Reserves in Alberta* was published in the May 1998 issue of *Alberta Fire News*.

A study of fire losses related to vehicles in Alberta was conducted because these fires account for the highest percentage of any property classification. This 10-year study (1988-1997) revealed:

- The majority of vehicle fires (81 per cent), related deaths (68 per cent), injuries (70 per cent) and property damage (38 per cent) occurred in cars and trucks.
- Fire data on cars and trucks indicate nearly two-thirds of these fires start in the engine area and fuel/fuel line area. However, the percent of fires that start in the passenger compartment is greater in cars while the reverse is true for the cargo area in trucks.
- The foremost act or omission leading to fire (57 per cent) in both cars and trucks was mechanical/electrical failure or malfunction which can also be described as part failure, leak or break. Another 13 per cent were due to incendiary or suspicious causes.
- Although vehicle crashes cause only two per cent of fires, they resulted in 51 per cent (24 out of 47) of deaths in car and truck fires.
- The primary known source of ignition in car and truck fires was electrical distribution equipment (34 per cent, which include the battery/rectifier/charger; permanent, or temporary electrical wiring; fuse/circuit breakers). The second most significant source of ignition was a hot internal combustion engine (21 per cent), followed by exposure from fires in adjacent properties (five per cent), and smokers' materials (two per cent).
- Flammable liquids (31 per cent), of which nearly 90 per cent was gasoline, were the major forms of materials first ignited in car and truck fires. These fires accounted for the leading share of deaths (30 or 64 per cent), injuries (113 or 47 per cent) and property damage ($17.8 million or 26 per cent).

A report of the above study titled *Majority of Alberta Vehicle Fires are in Cars and Trucks*, appeared in the November 1998 issue of *Alberta Fire News*.

Public Education/Information Programs

The major public fire safety campaigns during 1998 were the Fire Prevention Week Campaign in October and the Christmas Fire Safety Campaign. The theme for Fire Prevention Week "Fire Drills: The Great Escape!" was promoted Alberta-wide, to educate and inform the pubic about proper emergency responses to survive a home fire. Information kits from the Fire Commissioner's Office and Fire Prevention Canada as well as a Tool Kit from the National Fire Protection Association were provided to municipal fire departments to help implement the Fire Prevention Week Campaign.

79th Statistical Report of the Fire Commissioner (cont'd)

Public Education Materials and Fire Prevention Literature

Approximately 100,000 pieces of public fire safety information pamphlets, cards and booklets, covering a wide range of fire problems were distributed throughout the province with the assistance of the fire service and other safety organizations/professionals. A fire hydrant robot and three back-drop display units, depicting home fire safety, and Sparky costumes were made available to fire departments conducting education programs. *Alberta Fire News* was published in May and November. Approximately 2,000 copies of each issue were distributed to municipal fire departments, insurance industry, industrial and hospital fire departments, municipal administrators and other individuals and organizations. The newsletter covered significant fire problems as well as other timely fire safety issues in Alberta.

The Learn Not To Burn and Risk Watch Curricula

Members of the Public Fire Safety Education Committee of Alberta Fire Chiefs Association and Alberta Labour staff attended 10 annual teacher's conventions. The conventions provided a venue for one-on-one discussions with elementary school teachers on the value of Learn Not To Burn (LNTB) and to answer any questions.

The Risk Watch curriculum, a comprehensive injury prevention program focusing on eight areas of risk to children – motor vehicle safety; fire and burn prevention; choking, suffocation and strangulation prevention; poisoning prevention; falls prevention; firearms injury prevention; bike and pedestrian safety; and water safety – was introduced to the Sweetgrass Elementary School in Edmonton for pilot testing. The project was the combined effort of the Fire Commissioner's Office, the Alberta Centre for Injury Control and Research and Tim Vandenbrink, NFPA Representative in western Canada.

Alberta Weekly Newspaper Association (AWNA) Contest

One newspaper publisher in each of the three circulation categories - under 2,500; 2,501-5,000; and over 5,000, were awarded prizes to recognize outstanding coverage of the 1998 Fire Prevention Week. The winning newspapers were Claresholm Local Press, Canmore Leader and the Leduc Representative. Honourable Mention Certificates were awarded to Valleyview Valley Views, Airdrie Echo, The Sedgewick Community Press, and the Wetaskiwin Times Advertiser.

Partnerships

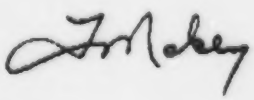
Partnerships and networking opportunities with other safety organizations continued to be pursued with much mutual benefit. These involved the Alberta Centre for Injury Control and Research at the University of Alberta, the Alberta Fire Chiefs Association, the Alberta Weekly Newspaper Association; nationally and internationally, with the Association of Canadian Fire Marshals and Fire Commissioners, Fire Prevention Canada, Canadian Association of Fire Chiefs, National Fire Protection Association (USA), International Fire Service Training Association, and the International Society of Fire Service Instructors.

The Safety Codes Council actively pursued the granting of accreditation status to municipalities and agencies, as well as certification of Fire Safety Codes Officers.

The Alberta Fire Training School

In 1998 the Fire Commissioner continued to hold the provincial accreditation for fire training jointly with the Alberta Fire Training School in Vermilion. The school provided training in all fire service career paths including fire prevention.

The *Safety Codes Act*, and the regulations under the Act, forms the legal framework for fire prevention, but fire prevention is everyone's responsibility. Even the smallest fire prevention action by an individual can have a pronounced effect on fire safety in Alberta. By working together, we can collectively reduce the incidence of fire in our province.



Tom Makey
Fire Commissioner

SECTION 1

Alberta Fire Casualties

Fire Commissioner's Statistical Report

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Fire Deaths 1989 - 1998

YEAR	Child		Adult		TOTAL
	Female	Male	Female	Male	
1989	5	6	8	12	31
1990	3	5	8	17	33
1991	6	3	8	20	37
1992	3	3	2	9	17
1993	1	6	11	11	29
1994	1	.	5	16	22
1995	4	6	6	15	31
1996	1	3	8	22	34
1997	3	2	7	12	24
1998	.	.	4	8	12
TOTAL	27	34	67	142	270

A fire death is an accidental death directly due to fire or death within one year of a fire injury.

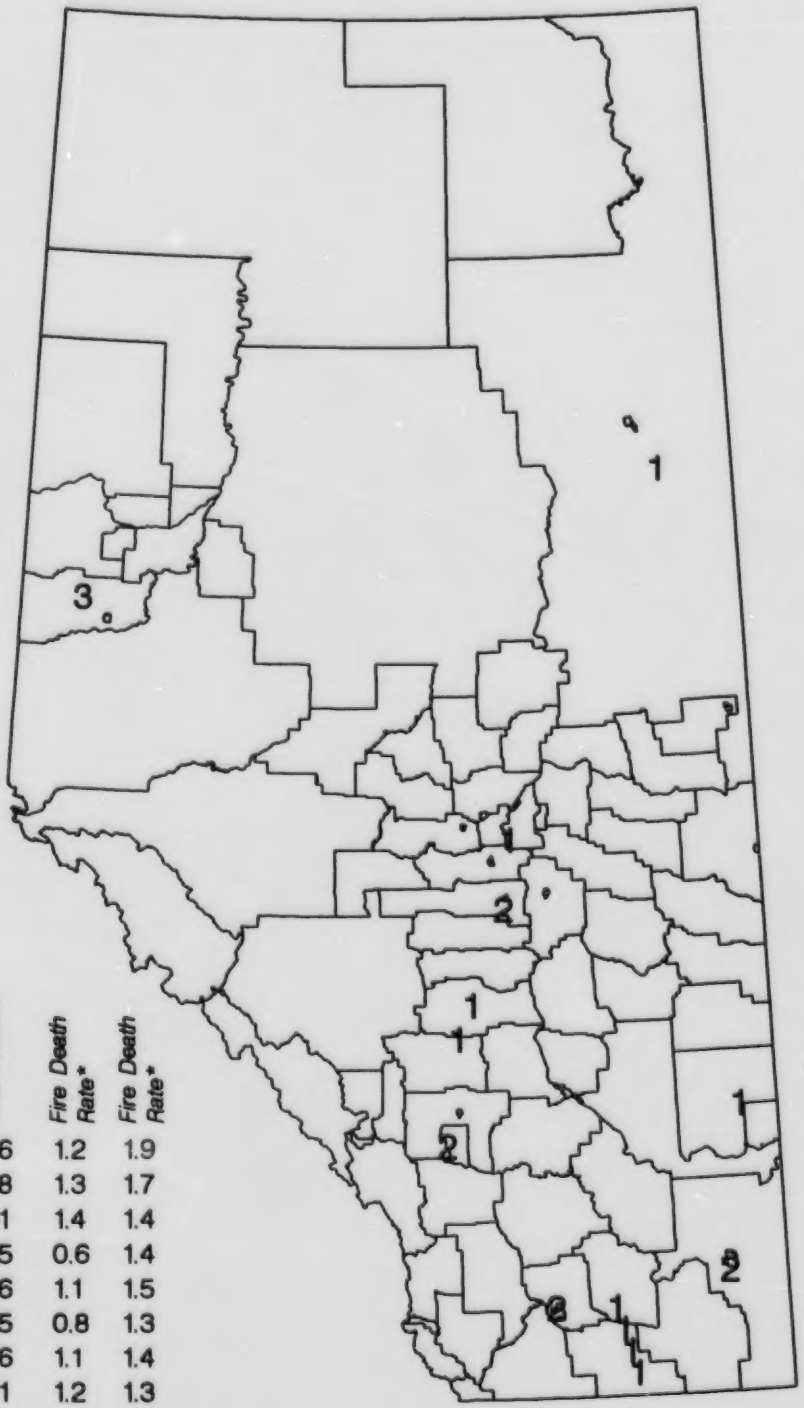
Deaths Involving Fire 1989 - 1998

YEAR	Child		Adult		TOTAL
	Female	Male	Female	Male	
1989	.	.	2	13	15
1990	1	3	3	8	15
1991	2	1	1	10	14
1992	.	.	1	7	8
1993	.	1	1	5	7
1994	.	.	.	3	3
1995	.	.	1	4	5
1996	1	.	.	6	7
1997	.	2	3	8	13
1998	1	1	1	5	8
TOTAL	5	8	13	69	95

A death involving fire is a death from causes other than fire, but occurs at a fire incident.

Fire Deaths by Geographic Location – 1998

Grande Prairie Cty #1	3
Red Deer Cty #23	1
Bowden	1
Lethbridge Cty #26	2
Municipality of Wood Buffalo	1
Sherwood Park	1
Taber M.D. #14	1
Wainwright M.D. #61	1
East Peace M.D. #131	1
Big Lakes M.D. #125	1
Oyen	1
Calgary City	2
Medicine Hat City	2
Wetaskiwin City	2



Death Rates

Year	*Population*	*Fire Deaths*	*Other Deaths Involving Fire*	*Total Deaths*	*Fire Death Rate**	*Fire Death Rate**
1989	2,495,799	31	15	46	1.2	1.9
1990	2,547,636	33	15	48	1.3	1.7
1991	2,592,551	37	14	51	1.4	1.4
1992	2,634,381	17	8	25	0.6	1.4
1993	2,670,726	29	7	36	1.1	1.5
1994	2,704,904	22	3	25	0.8	1.3
1995	2,739,853	31	5	36	1.1	1.4
1996	2,780,639	34	7	41	1.2	1.3
1997	2,837,191	24	13	37	0.8	1.4
1998	2,908,870	12	8	20	0.4	.
		Alberta				Canada

*Fire Deaths per 100,000 population

Fatal Casualties by Status, Age & Sex - 1998

Fire Deaths

Status and Sex of Casualty		Age in Years					Total
		16-25	36-45	46-55	56-65	Over 65	
Civilian	Female	.	.	2	1	1	4
	Male	2	2	1	.	3	8
Total Deaths		2	2	3	1	4	12

Commentary: On average, one fire death occurred every 30 days in Alberta in 1998. Most fire deaths were in seniors (33%), followed by those in the 46-55 age group (25%). The male:female ratio for fire deaths was 2:1.

Injured Casualties by Status, Age & Sex - 1998

Fire Injuries

Status and Sex of Casualty		Age in Years									Total
		Unknown	0-5	6-15	16-25	26-35	36-45	46-55	56-65	Over 65	
Firefighter	Female	2	.	.	1	1	5	.	.	.	9
	Male	8	.	.	6	10	35	27	1	.	87
Civilian	Female	15	6	4	24	22	17	7	6	10	111
	Male	36	6	17	42	45	34	18	11	11	220
Total Injuries		61	12	21	73	78	91	52	18	21	427

Commentary: On average, there were 1.2 fire injuries per day in Alberta in 1998. The highest number of injuries (91) occurred in the 36-45 age group.

Condition of Fatal Casualties - 1998

Condition of Casualty	No.	%
Condition of casualty-Unknown	1	8.3
Asleep at time of fire	2	16.7
Bedridden/physical handicap	1	8.3
Impaired: alcohol/drugs/medicn.	5	41.7
Awake and normal	3	25.0
Total	12	100.0

Commentary: Forty-two percent of fatal casualties were impaired by alcohol, drugs or medication.

Action of Fatal Casualties - 1998

Action of Casualty	No.	%
Action of casualty-Unknown	1	8.3
Injured while attempting escape	5	41.7
Entered/remained for firefighting	1	8.3
Loss of judgment/panic	2	16.7
Did not act	3	25.0
Total	12	100.0

Commentary: Forty-two percent of the fatal casualties were injured while attempting to escape. This points to the value of developing and practicing home fire escape plans.

Condition of Injured Casualties - 1998

Condition of Casualty	No.	%
Condition of casualty-Unknown	31	7.3
Asleep at time of fire	63	14.8
Impaired: alcohol/drugs/medicn.	27	6.3
Awake and normal	240	56.2
Under restraint or detention	2	0.5
Too young to react to fire	5	1.2
Mental handicap(senile)	1	0.2
Condition of casualty-Unclassified	58	13.6
Total	427	100.0

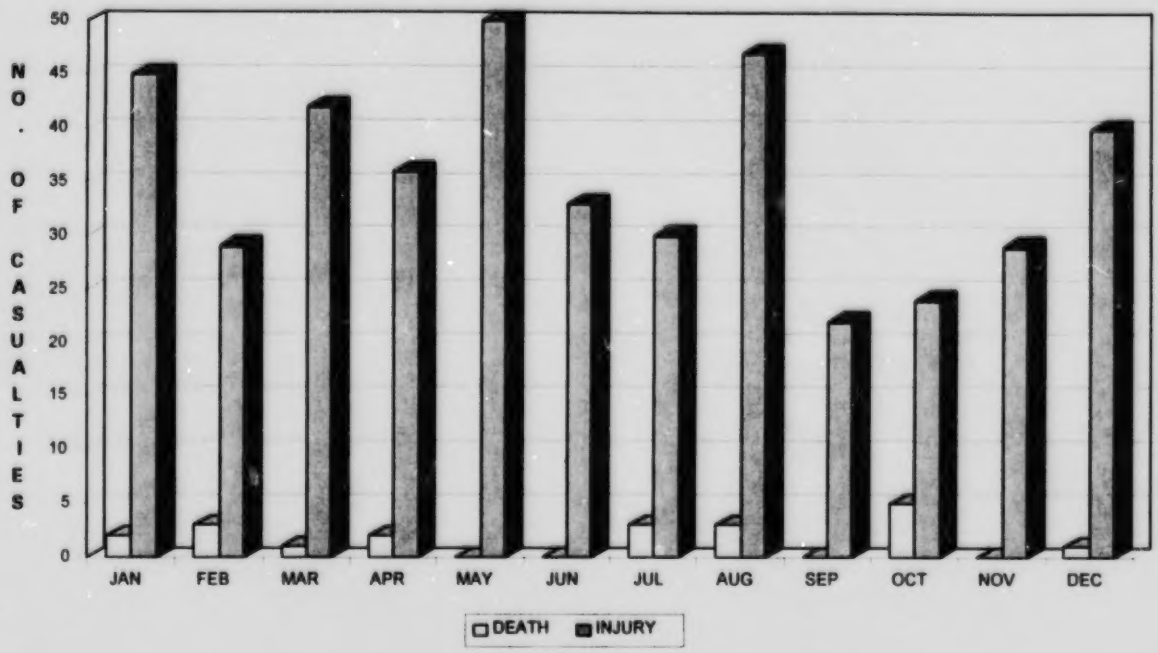
Commentary: Most of the injured casualties (56%) were awake and normal at the time of the fire. This points to the need for educating the public on the proper responses during fire emergencies.

Action of Injured Casualties - 1998

Action of Casualty	No.	%
Action of casualty-Unknown	33	7.7
Injured while attempting escape	53	12.4
Overexertion, heart attack	5	1.2
Entered/remained for rescue purposes	38	8.9
Entered/remained for firefighting	152	35.6
Entered/remained to save property	27	6.3
Loss of judgment/panic	12	2.8
Received delayed warning	20	4.7
Did not act	42	9.8
Action of casualty-Unclassified	45	10.5
Total	427	100.0

Commentary: Most fire injuries (36%) occurred when persons entered or remained for firefighting, followed by those that were injured while attempting to escape (12%).

Fire Casualties by Month - 1998



Fire Casualties by Time Period - 1998

Time Periods	TYPE OF CASUALTY			
	All Injuries		Fire Deaths	
	No.	%	No.	%
2:30pm - 10.29pm	162	37.9	3	25.0
10:30pm - 6:29am	140	32.8	6	50.0
6:30am - 2:29pm	125	29.3	3	25.0
Total	427	100	12	100

Commentary: The majority of fire deaths (50%) occurred during the sleeping hours of 10:30 pm to 6:30 am, while most of the injuries (38%) occurred during the afternoon and evening hours of 2:30 pm to 10:30 pm.

Fire Deaths by Major Property Classification - 1998

Property Classification		Fire Deaths		Deaths Involving Fire	
		No.	%	No.	%
Residential	One and two family dwellings	8	66.7	.	.
	Apartments	3	25.0	.	.
	Sub Total	11	91.7	.	.
Special Property-Transportation Equip.	Automobile (Incl. car/ambulance)	.	.	4	50.0
	General truck (non-flammable cargo)	.	.	3	37.5
	Brush/grass/light ground cover/open land	1	8.3	.	.
	Sub Total	1	8.3	7	87.5
Miscellaneous Property	Farm facility-Unclass.	.	.	1	12.5
	Sub Total	.	.	1	12.5
Total		12	100.0	8	100.0

Commentary: Ninety-two percent of all fire deaths occurred in home fires. Deaths involving fire occurred most often in motor vehicle related fires (88%).

Fire Deaths by Act Or Omission - 1998

Act or Omission		Fire Deaths		Deaths Involving Fire	
		No.	% Of Total	No.	% Of Total
Human Failing	Ignorance of hazard	2	16.7	1	12.5
	Physical or mental disability	.	.	2	25.0
	Asleep (suspect alcohol/drugs/medicn.)	1	8.3	.	.
	Human failing-Unknown	1	8.3	.	.
	Sub Total	4	33.3	3	37.5
Misuse of Source of Ignition	Smoker's material	3	25.0	.	.
	Inadequate control of 'open' fire	2	16.7	.	.
	Sub Total	5	41.7	.	.
Vehicle Accident	Automobile accident	.	.	3	37.5
	Industrial truck accident	.	.	2	25.0
	Sub Total	.	.	5	62.5
Misuse of Material Ignited	Overheated cooking oil, grease, wax	1	8.3	.	.
	Sub Total	1	8.3	.	.
Unknown	Unknown	1	8.3	.	.
	Sub Total	1	8.3	.	.
Constructn., Design, Installn. Def.	Installed too close to combustible	1	8.3	.	.
	Sub Total	1	8.3	.	.
Total		12	100.0	8	100.0

Commentary: Misuse of smoker's material (25%), followed by ignorance of hazard (17%) and inadequate control of "open" fire (17%) were the leading known acts or omissions in fire deaths. Automobile accidents (38%) followed by both industrial truck accidents (25%) and physical or mental disability (25%) were the leading known acts or omissions in deaths involving fire.

Fire Deaths by Ignition Scenerios - 1998

One And Two Family Dwellings

Source of Ignition	Act or Omission	Material First Ignited	Deaths
Stove/top burner (fire in pan)	Overheated cooking oil, grease, wax	Cooking oil/fat	1
Other cooking unit, portable	Asleep (suspect alcohol/drugs/medicn.)	Structural materials-Unclassified	1
Cooking equipment-unclassified	Installed too close to combustible	Furniture (not upholstered)	1
	Human failing-Unknown	Floor covering: wood	1
	Ignorance of hazard	Wastepaper	2
Hot ashes/embers (not from smoking)	Inadequate control of 'open' fire	Grass, brush, leaves	1
Unknown	Unknown	Material first ignited-Unknown	1
Sub Total			8

Apartments

Source of Ignition	Act or Omission	Material First Ignited	Deaths
Cigarette	Smoker's material	Bedding	2
		Paper stock	1
Sub Total			3

Brush/Grass/Light Ground Cover/Open Land

Source of Ignition	Act or Omission	Material First Ignited	Deaths
Hot ashes/embers (not from smoking)	Inadequate control of 'open' fire	Grass, brush, leaves	1
Sub Total			1

Total Fire Deaths	12

Commentary: Misuse of cooking equipment leading to the ignition of a variety of materials was the leading ignition scenario (50%) in fire deaths. Careless disposal of smoker's material igniting bedding and paper stock was the second leading ignition scenario (25%) in fire deaths.

Deaths Involving Fire by Ignition Scenarios - 1998

Automobile (Incl. Car/Ambulance)

Source of Ignition	Act or Omission	Material First Ignited	Deaths
Cigarette	Physical or mental disability	Furniture (upholstered)	1
Unknown	Physical or mental disability	Material first ignited-Unknown	1
	Industrial truck accident	Material first ignited-Unknown	2
Sub Total			4

General Truck (Non-Flammable Cargo)

Source of Ignition	Act or Omission	Material First Ignited	Deaths
Unknown	Automobile accident	Material first ignited-Unknown	3
Sub Total			3

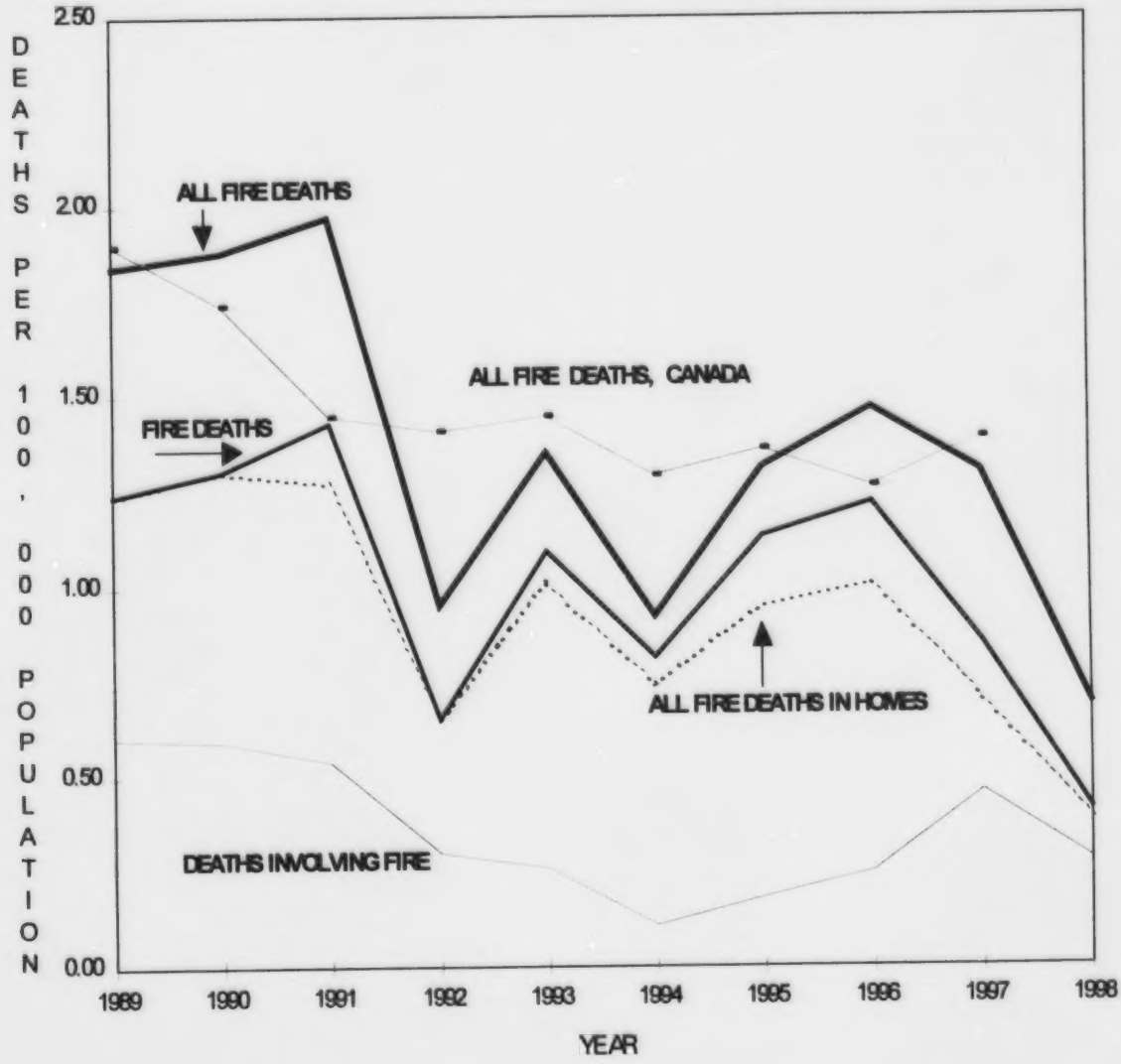
Farm Facility-Unclass.

Source of Ignition	Act or Omission	Material First Ignited	Deaths
Incandescent lamp/light bulb/heat lamp	Ignorance of hazard	Paint/varnish	1
Sub Total			1

Total Deaths Involving Fire	8

Commentary: Automobile accidents (63%) and physical or mental disability (25%) were the key acts or omissions in deaths involving fire.

Trends in Alberta Fire Deaths, 1989 – 1998



Commentary: Since a remarkable decline in fire death rates for all fire deaths (fire deaths + deaths involving fire) between 1991 (1.4) and 1992 (0.6), these rates have fluctuated around an average of 0.9 per 100,000 population until 1998. The lowest recorded fire death rate of 0.4 for the province was in 1998.

Fire Injuries by Major Property Classification – 1998

Property Classification		Minor Injury	Light Injury	Serious Injury	Total	% of Total
Assembly	Ballroom/gym/community hall	1	.	.	1	0.2
	Junior high school	1	.	.	1	0.2
	Educational facility-Unclass.	.	1	.	1	0.2
	Church/chapel	2	.	.	2	0.5
	Country club	1	.	.	1	0.2
	Nightclub	.	1	.	1	0.2
	Sub Total	5	2	.	7	1.6
Institutional	Home for the aged w/o nursing staff	.	1	1	2	0.5
	General hospital	1	.	.	1	0.2
	Mental hospital	1	.	.	1	0.2
	Sub Total	2	1	1	4	0.9
Residential	One and two family dwellings	108	36	9	153	35.8
	Apartments	72	22	9	103	24.1
	Hotel/inn/lodge (year round use)	6	1	.	7	1.6
	Motor hotel/motel (over 20 units)	2	.	.	2	0.5
	Bunkhouse/worker's barracks	1	.	.	1	0.2
	Mobile homes	7	1	2	10	2.3
	Travel/holiday trailer	4	.	.	4	0.9
	Motor home/camperized van	1	.	.	1	0.2
	Sub Total	201	60	20	281	65.8
Business and Personal Service	General business office	2	.	.	2	0.5
	Sub Total	2	.	.	2	0.5
Mercantile	Supermarket (over 1000 sq. m)	.	1	.	1	0.2
	General maintenance shop	2	1	1	4	0.9
	Repair/laundry-Unclass.	1	.	.	1	0.2

(CONTINUED)

Fire Injuries by Major Property Classification – 1998 (cont'd)

Property Classification		Minor Injury	Light Injury	Serious Injury	Total	% of Total
Mercantile	Fuel service station (public)	4	.	.	4	0.9
	Vehicle repair/paint shop	.	1	.	1	0.2
	Sub Total	7	3	1	11	2.6
Industrial Manufacturing Properties	Petroleum refineries	1	2	.	3	0.7
	Chem./petro./paint/plastic mfg.-Unclass.	9	3	.	12	2.8
	Wood/lumber mfg.	2	.	.	2	0.5
	Furniture/fixture mfg.	1	.	.	1	0.2
	Paper/pulp/paperboard product mfg.	2	.	.	2	0.5
	Metal products mfg.	1	.	.	1	0.2
	Electrical/electronic mach. mfg.	1	.	.	1	0.2
	Slaughter/meat preserving	3	.	.	3	0.7
	Grain mill products mfg.	.	.	1	1	0.2
	Bakery product mfg.	1	.	.	1	0.2
	Industrial mfg.-Unclass.	2	.	.	2	0.5
	Sub Total	23	5	1	29	6.8
Storage Properties	LP gas cylinder storage	.	.	1	1	0.2
	Fertilizers/peat moss storage	2	.	.	2	0.5
	Individual auto parking garage	3	2	5	10	2.3
	Warehouse (general)	2	.	.	2	0.5
	Storage properties-Unclass.	1	.	.	1	0.2
	Sub Total	8	2	6	16	3.7
Special Property-Transportation Equip.	Brush/grass/light ground cover/open land	8	2	.	10	2.3
	Outdoor property-Unclass.	11	1	3	15	3.5
	Building under construction	2	.	.	2	0.5

(CONTINUED)

Fire Injuries by Major Property Classification – 1998 (cont'd)

Property Classification		Minor Injury	Light Injury	Serious Injury	Total	% of Total
Special Property-Transportation Equip.	Vacant/condemned property-w/o contents	2	.	.	2	0.5
	Automobile (Incl. car/ambulance)	6	2	2	10	2.3
	Bus/trackless trolley	1	.	.	1	0.2
	Flamm. liquid/chem. tank truck	1	.	.	1	0.2
	General truck (non-flammable cargo)	5	2	1	8	1.9
	Construction equipment (excludes crane)	2	.	.	2	0.5
	Drilling rig (petro/gas)	.	1	2	3	0.7
	Barbeque	1	1	.	2	0.5
	Sub Total	39	9	8	56	13.1
Miscellaneous Property	Barn storage (feed/vehicle)	1	1	.	2	0.5
	Farm facility-Unclass.	.	1	.	1	0.2
	Shed (inc. implement shed)	5	3	.	8	1.9
	Utility-Unclass.	.	.	1	1	0.2
	Petroleum/nat. gas well	4	.	3	7	1.6
	Miscellaneous-Unclass.	.	.	1	1	0.2
	Quonset	1	.	.	1	0.2
	Sub Total	11	5	5	21	4.9
Total		298	87	42	427	100.0

Commentary: Sixty-six percent of all fire injuries occurred in residential properties. The majority of these occurred in one and two family dwellings (36%) and apartments (24%).

Fire Injuries by Act Or Omission - 1998

Act or Omission		Injury, Minor	Injury, Light	Injury, Serious	Total	% Of Total
Incendiary	Arson for vengeful/spiteful purposes	1	2	.	3	0.7
	Arson to satisfy compulsive desires	9	3	.	12	2.8
	Suspected arson	20	.	2	22	5.2
	Arson/set fire-Unknown	6	3	.	9	2.1
	Vandalism, mischief, charges laid	1	.	.	1	0.2
	Vandalism, mischief, no charges laid	2	.	.	2	0.5
	Sub Total	39	8	2	49	11.5
Misuse of Source of Ignition	Smoker's material	19	7	1	27	6.3
	Thawing	1	.	.	1	0.2
	Inadequate control of 'open' fire	4	1	.	5	1.2
	Child playing with	11	8	5	24	5.6
	Welding or cutting too close to	3	.	.	3	0.7
	Torch too close to	3	3	1	7	1.6
	Misuse of source of ignit.-Unclassified	.	2	.	2	0.5
	Sub Total	41	21	7	69	16.2
Misuse of Material Ignited	Fuel spilled accidentally	15	1	4	20	4.7
	Improper fuelling technique	.	2	.	2	0.5
	Flammable liquid to kindle fire	.	1	1	2	0.5
	Cleaning, washing parts	5	1	3	9	2.1
	Improper container	1	.	.	1	0.2
	Overheated cooking oil, grease, wax	41	12	1	54	12.6

(CONTINUED)

Fire Injuries by Act Or Omission – 1998 (cont'd)

Act or Omission		Injury, Minor	Injury, Light	Injury, Serious	Total	% Of Total
Misuse of Material Ignited	Combustible placed too close to heat	21	3	.	24	5.6
	Improper storage	2	.	.	2	0.5
	Misuse of Mat. Ignited Unclassified	.	1	.	1	0.2
	Sub Total	85	21	9	115	26.9
Mech., Electr. Failure, Malfunction	Mech., Elect. Failure-Unknown	3	.	.	3	0.7
	Part failure, leak, break	10	3	6	19	4.4
	Automatic control failure	1	1	.	2	0.5
	Electrical short circuit	15	3	2	20	4.7
	Part worn out	1	1	.	2	0.5
	Mech., Elect. Failure-Unclassified	2	3	.	5	1.2
	Sub Total	32	11	8	51	11.9
Constructn., Design, Installn. Def.	Design deficiency	1	.	.	1	0.2
	Construction deficiency	4	.	.	4	0.9
	Installed too close to combustible	4	1	.	5	1.2
	Suspected faulty connect./alum. wiring	1	.	.	1	0.2
	Constrn./design/installn. def.-Unclass.	4	.	.	4	0.9
	Sub Total	14	1	.	15	3.5
Human Failing	Asleep	7	.	2	9	2.1
	Temporary loss of judgement	.	1	1	2	0.5
	Physical or mental disability	2	.	1	3	0.7

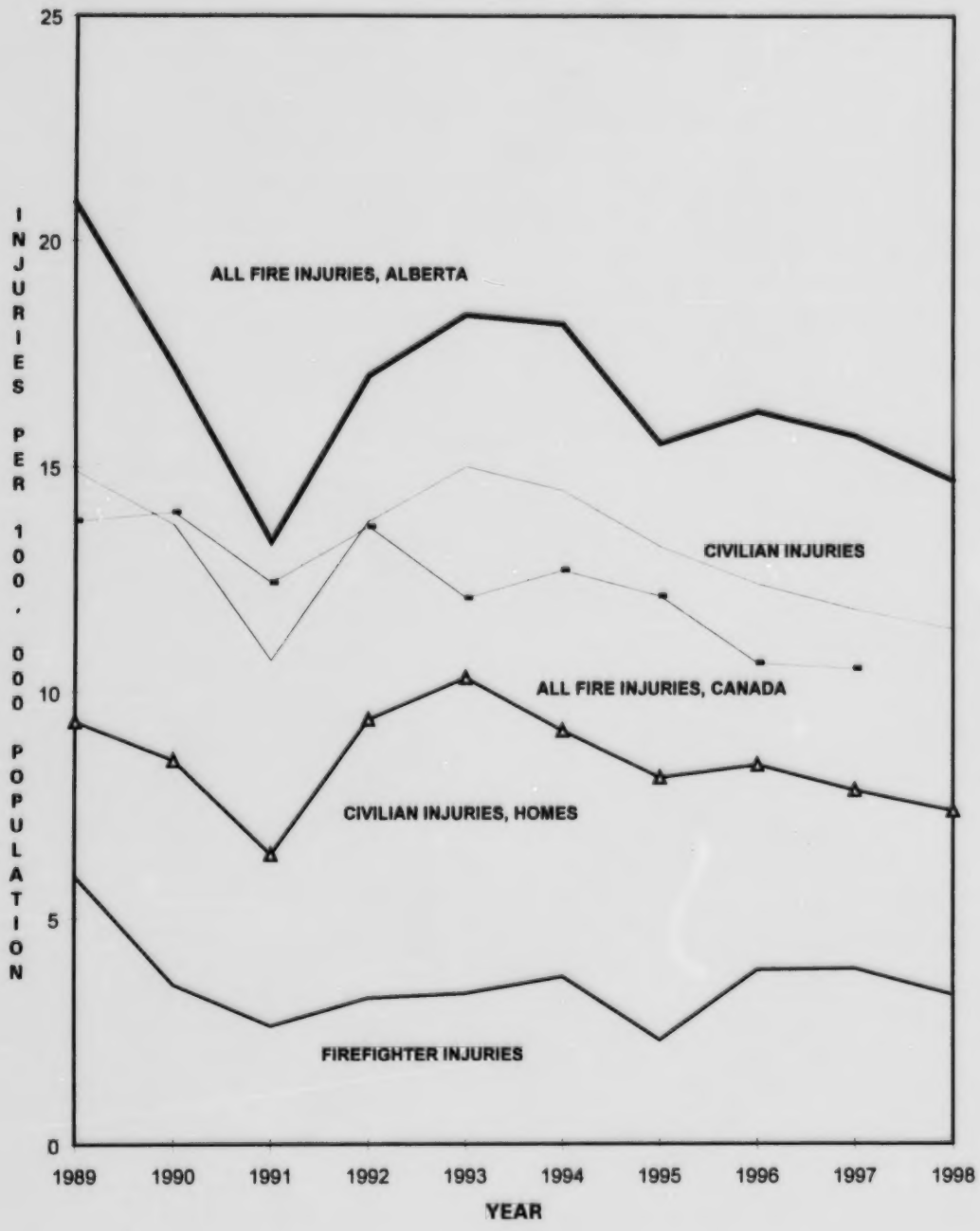
(CONTINUED)

Fire Injuries by Act Or Omission – 1998 (cont'd)

Act or Omission		Injury, Minor	Injury, Light	Injury, Serious	Total	% Of Total
Human Failing	Accident	18	3	.	21	4.9
	Impaired (suspect alcohol/drugs/medicn.)	2	1	.	3	0.7
	Asleep (suspect alcohol/drugs/medicn.)	13	.	.	13	3.0
	Ignorance of hazard	18	12	4	34	8.0
	Distracted, preoccupied	1	.	.	1	0.2
	Human failing-Unclassified	3	.	1	4	0.9
	Sub Total	64	17	9	90	21.1
Vehicle Accident	Automobile accident	2	.	.	2	0.5
	Sub Total	2	.	.	2	0.5
Miscellaneous	Miscellaneous-Unclassified	5	2	.	7	1.6
	Sub Total	5	2	.	7	1.6
Unknown	Unknown	16	6	7	29	6.8
	Sub Total	16	6	7	29	6.8
Total		298	87	42	427	100.0

Commentary: The five major known acts or omissions in fire injuries were: overheated cooking oil, grease or wax (13%), ignorance of hazard (8%), misuse of smoker's material (6%), combustibles placed too close to heat (6%) and children playing with (6%).

Trends in Alberta Fire Injuries, 1989 – 1998



Commentary: Rates for all fire injuries (sum of civilian injuries and firefighter injuries) have been consistently higher in Alberta than in Canada. A gradual declining trend since 1993 is evident in civilian injury rates depicted above. Public education programs must focus on how to respond during fire emergencies to achieve further reductions in injury rates.

SECTION 2

Alberta Fire Loss Information

Fire Commissioner's Statistical Report

1 9 9 8

Fire Losses in Alberta 1989 - 1998

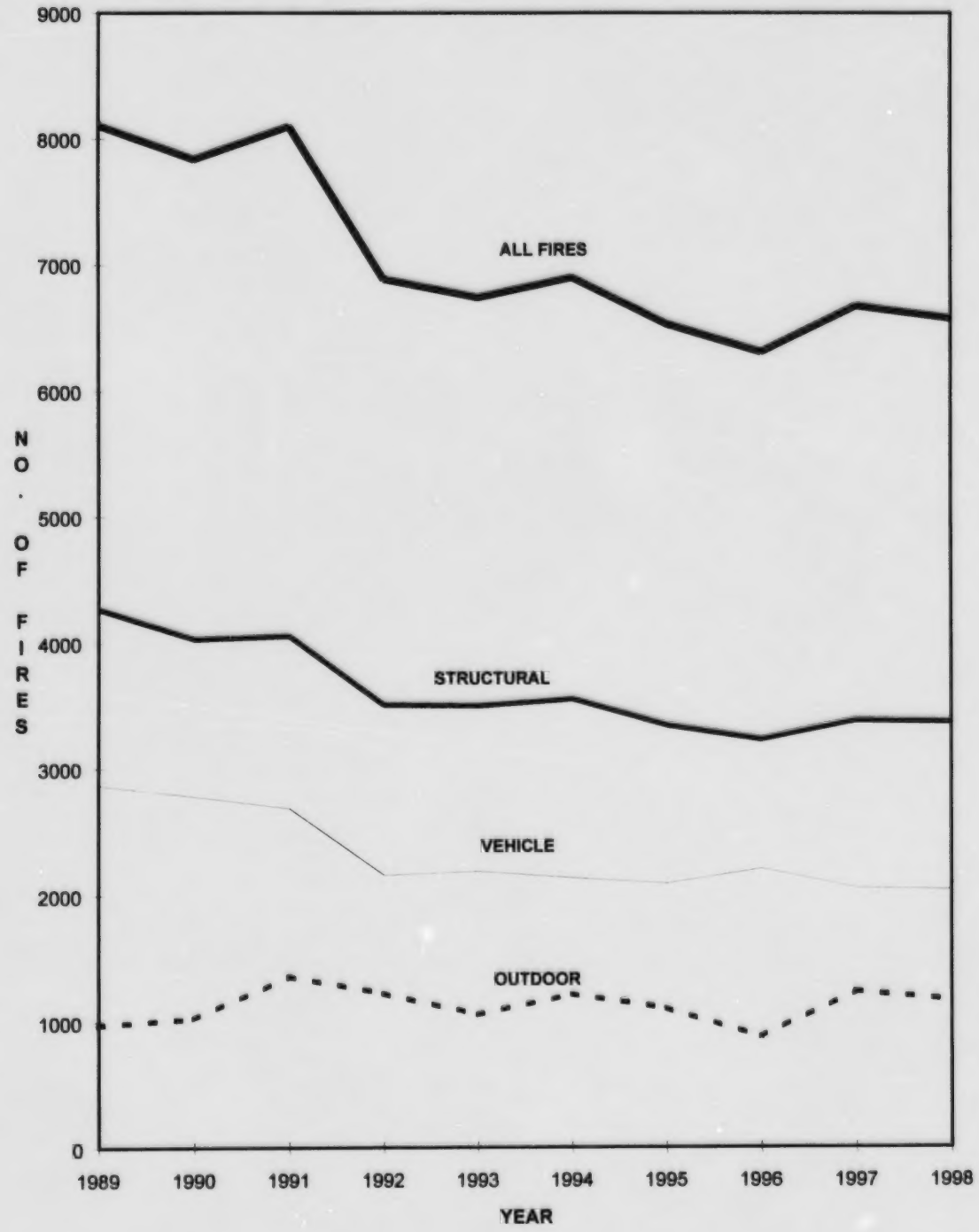
Year	Fires	Deaths	Injuries	$ Losses
1989	8,104	46	520	123,000,705
1990	7,836	48	440	135,948,786
1991	8,097	51	345	117,713,851
1992	6,882	25	448	103,587,506
1993	6,735	36	491	103,320,281
1994	6,897	25	490	110,138,438
1995	6,528	37	424	111,140,466
1996	6,304	41	451	120,556,379
1997	6,670	37	448	141,945,334
1998	6,570	20	427	138,723,933
Total	70,623	366	4,484	1,206,075,679
Average	7,062	37	448	12,060,757

Fire Losses in Canada 1989 - 1998

Year	Fires	Deaths	Injuries	$ Losses
1989	67,588	519	3,763	1,128,079,909
1990	68,007	481	3,874	1,237,393,172
1991	68,150	406	3,476	1,239,716,205
1992	65,999	401	3,874	1,241,390,000
1993	65,877	417	3,463	1,181,892,872
1994	65,716	376	3,681	1,166,889,153
1995	64,251	400	3,551	1,110,839,184
1996	60,138	374	3,152	1,163,336,515
1997	56,292	416	3,149	1,291,640,983
1998	.	.	.	.
Total	582,018	3,790	31,983	11,561,177,993
Average	64,669	421	3,554	1,284,575,333

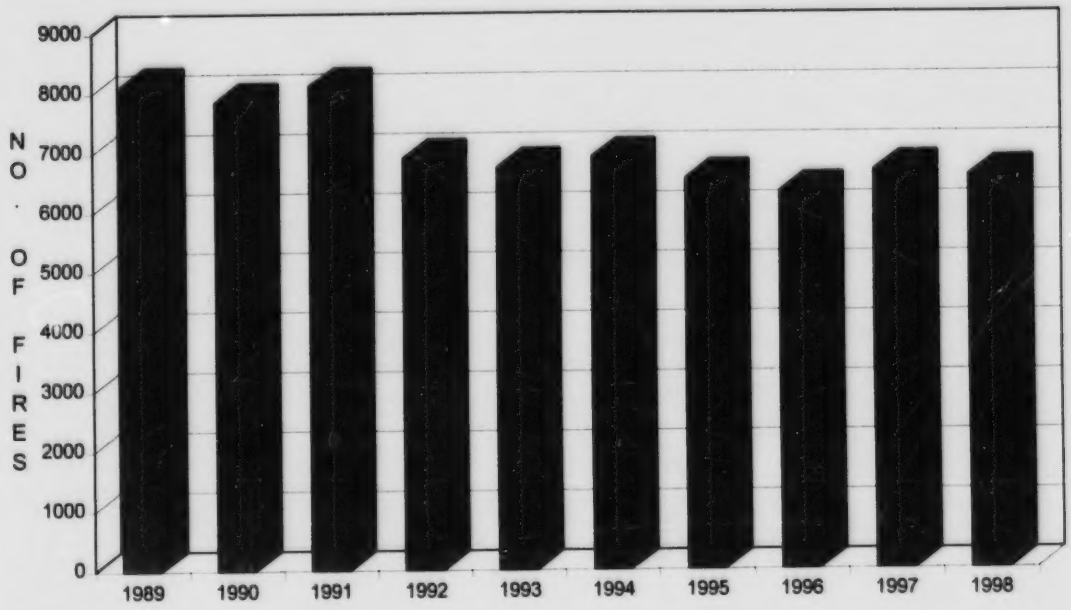
Commentary: Compared to 1997 fire loss figures for Canada (1998 statistics unavailable), Alberta accounted for 12% of incidents, 5% of deaths, 14% of injuries and 11% of $ losses from fires in Canada in 1998.

Trends in Alberta Fires, 1989 – 1998

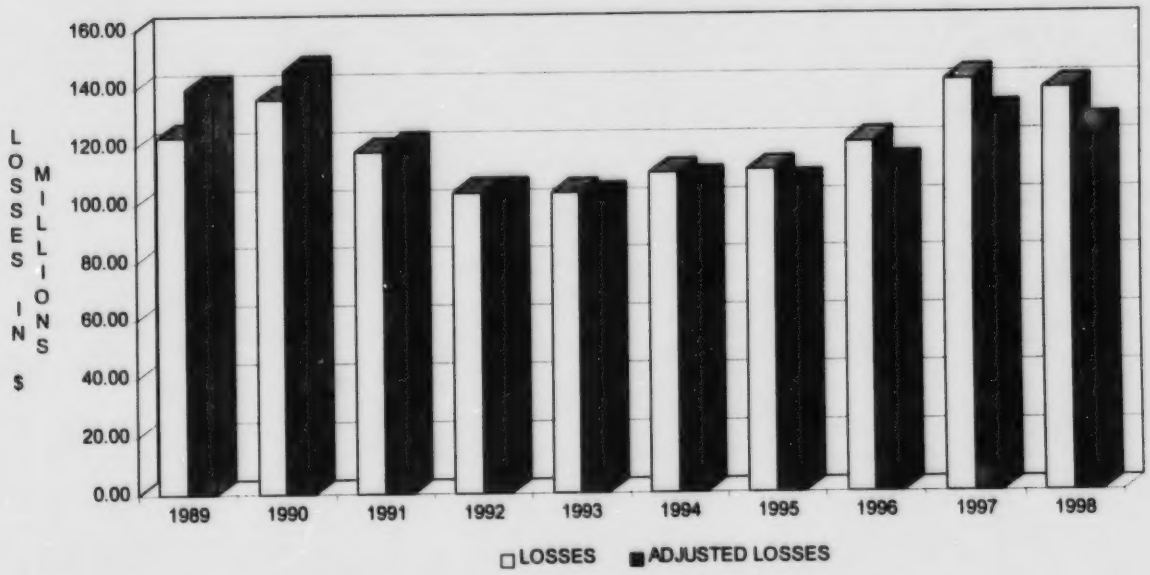


Commentary: From an annual average of 7,062 fires during 1989 - 1998, there were 3,621 structural fires (51%), 2,319 vehicle fires (33%) and 1,123 outdoor fires (16%).

Fires and Losses 1989 – 1998



Commentary: The average number of fires for the period 1989 to 1998 is 7,062. The number of fires in 1998 decreased by 2% compared to 1997.



Commentary: Adjusted losses were calculated from actual losses using the Annual Consumer Price Index (C.P.I.) figures for Alberta obtained from Statistics Canada. The 1992 C.P.I.=100.

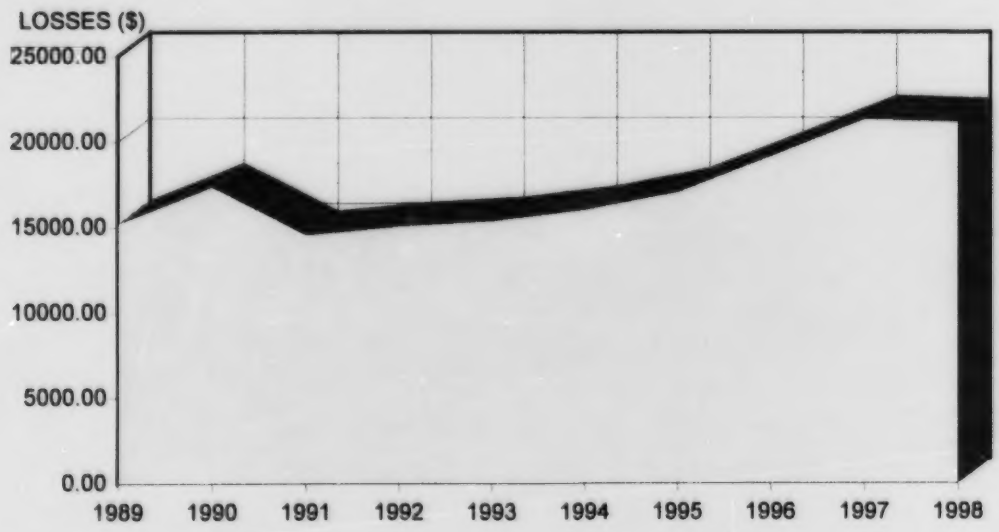
Fire Rates and Per Capita Losses 1989 - 1998

Year	Population	Number of Fires	Fire Rate	Loss Estimate	Loss Per Capita
1989	2,495,799	8,104	3.2	123,000,705	49.3
1990	2,547,636	7,836	3.1	135,948,786	53.4
1991	2,592,551	8,097	3.1	117,713,851	45.4
1992	2,634,381	6,882	2.6	103,587,506	39.3
1993	2,670,726	6,735	2.5	103,320,281	38.7
1994	2,704,904	6,897	2.5	110,138,438	40.7
1995	2,739,853	6,528	2.4	111,140,466	40.6
1996	2,780,639	6,304	2.3	120,556,379	43.4
1997	2,837,191	6,670	2.4	141,945,334	50.0
1998	2,908,870	6,570	2.3	138,723,933	47.7

*Fire Rate = Number of fires per 1000 population

Commentary: The fire rate for the province has averaged 2.4 between 1994 and 1998.

Average Loss Per Fire 1989 – 1998

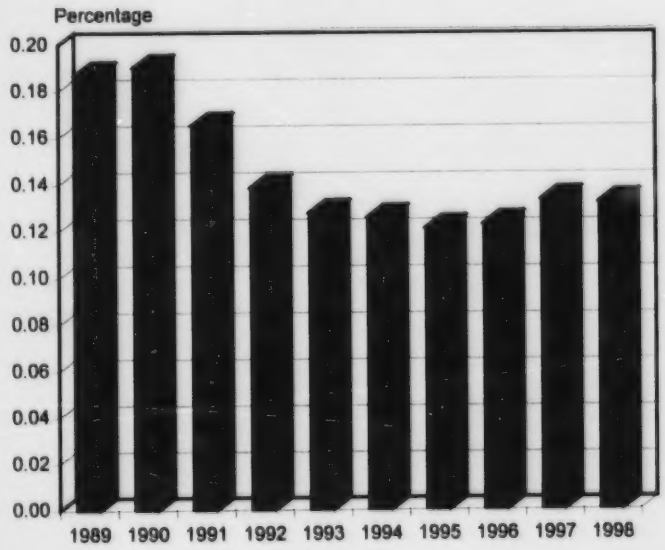


Fire Losses Related to Economic Indices 1989 - 1998

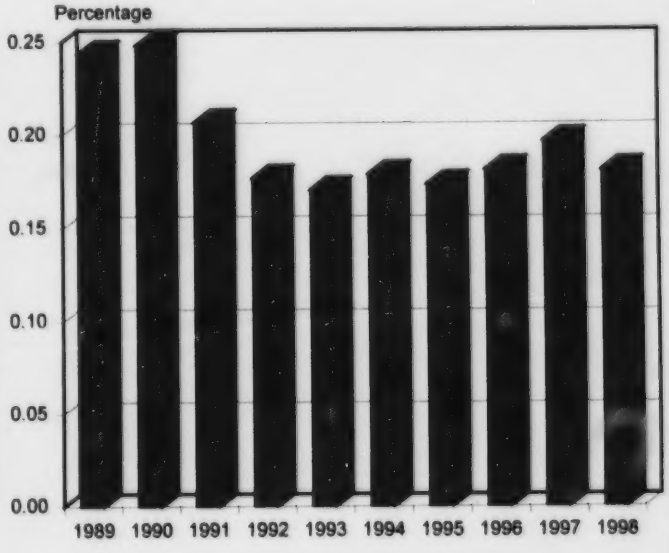
Year	Fire Losses ($)	Gross Domestic Product ($ million)	% of GDP	Personal Income ($ million)	% of Personal Income
1989	123,000,705	65,711	0.19	50,395	0.24
1990	135,948,786	71,446	0.19	54,754	0.25
1991	117,713,851	71,306	0.17	56,978	0.21
1992	103,587,506	74,748	0.14	58,631	0.18
1993	103,320,281	80,873	0.13	60,641	0.17
1994	110,138,438	87,637	0.13	61,643	0.18
1995	111,140,466	91,834	0.12	64,103	0.17
1996	120,556,379	98,201	0.12	66,525	0.18
1997	141,945,334	106,462	0.13	72,211	0.20
1998	138,723,933	104,982	0.13	76,675	0.18

The Gross Domestic Product (GDP) is a measure of economic growth and represents the value of goods and services produced in the province. Personal Income (PI) is the aggregate of income from all sources to individuals. Values for GDP (at market prices) and PI were obtained from Statistics Canada. GDP and PI values since 1992 reflect the revisions of the Canadian National Economic and Financial Accounts.

Fire Losses as a Percentage of Gross Domestic Product

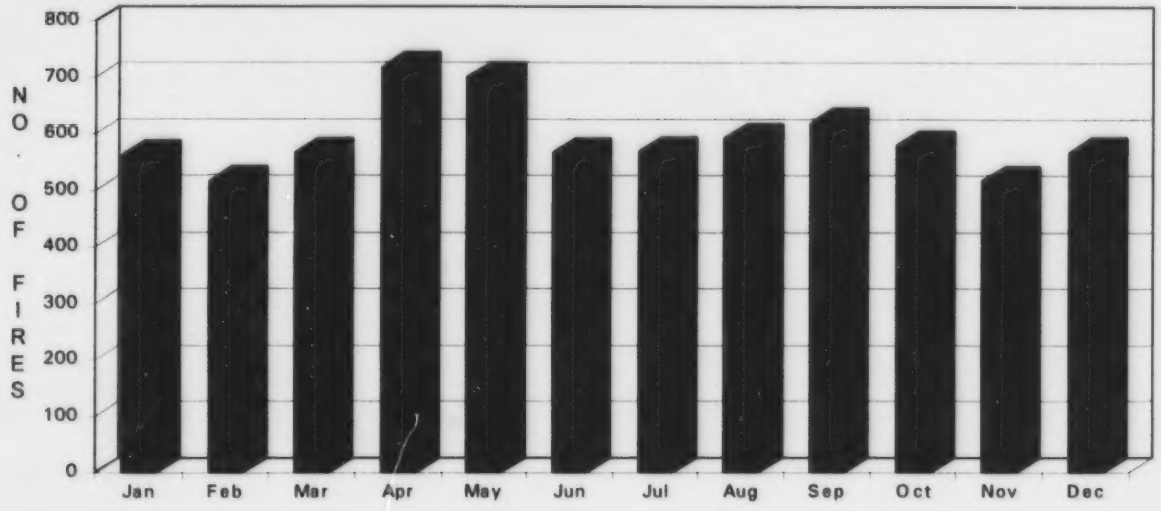


Fire Losses as a Percentage of Personal Income

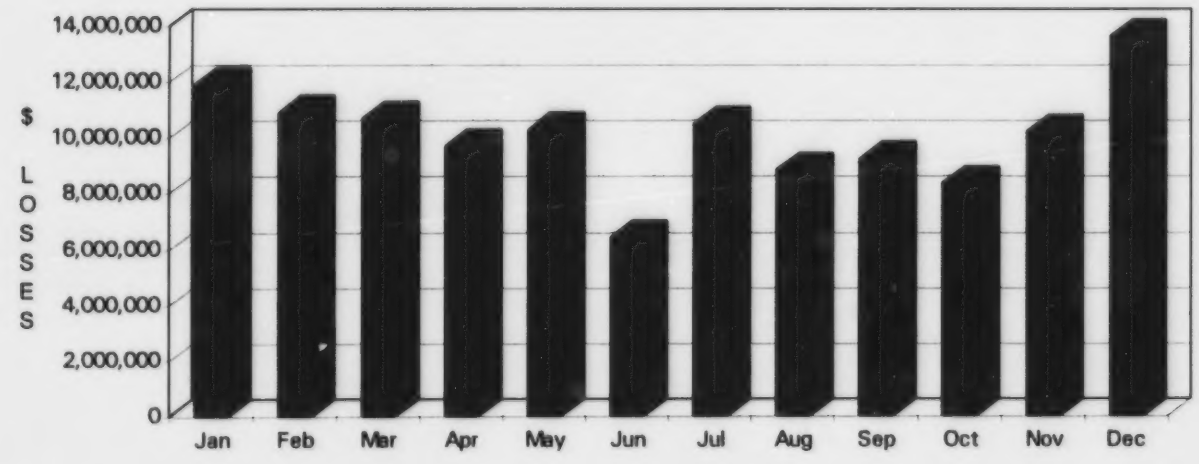


Commentary: As a percentage of gross domestic product, fire losses have decreased by 32% between 1989 and 1998. As a percentage of personal income, fire losses have declined by 25% over the same time period.

Average Number of Fires by Month 1989 – 1998

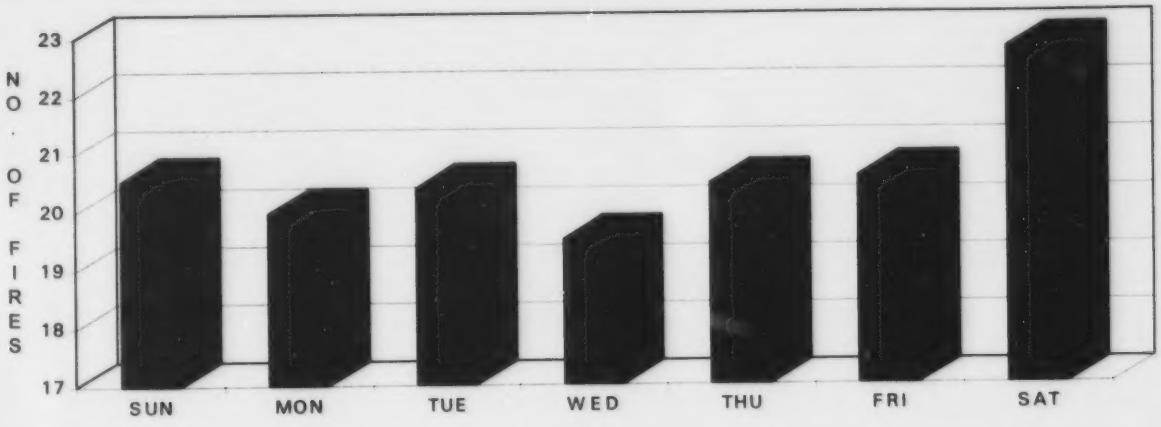


Average Fire Loss By Month 1989 – 1998

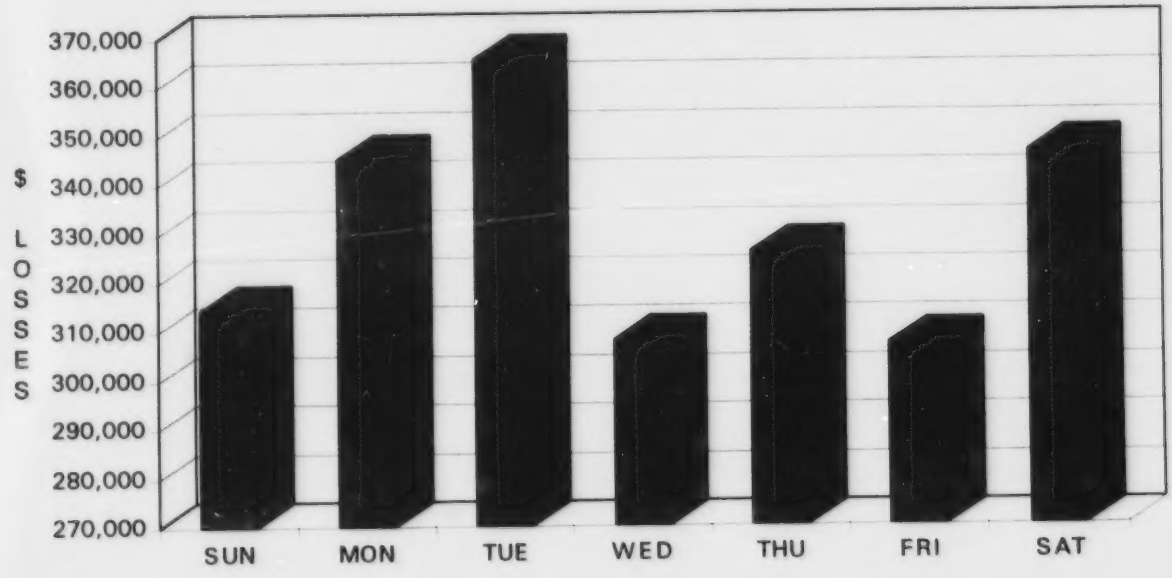


Commentary: April (717) and May (699) had the highest average number of fires per month, while December ($13,630,865), January ($11,907,008) and February ($10,889,433) had the highest average fire losses per month.

Average Number of Fires by Day of Week 1989 – 1998

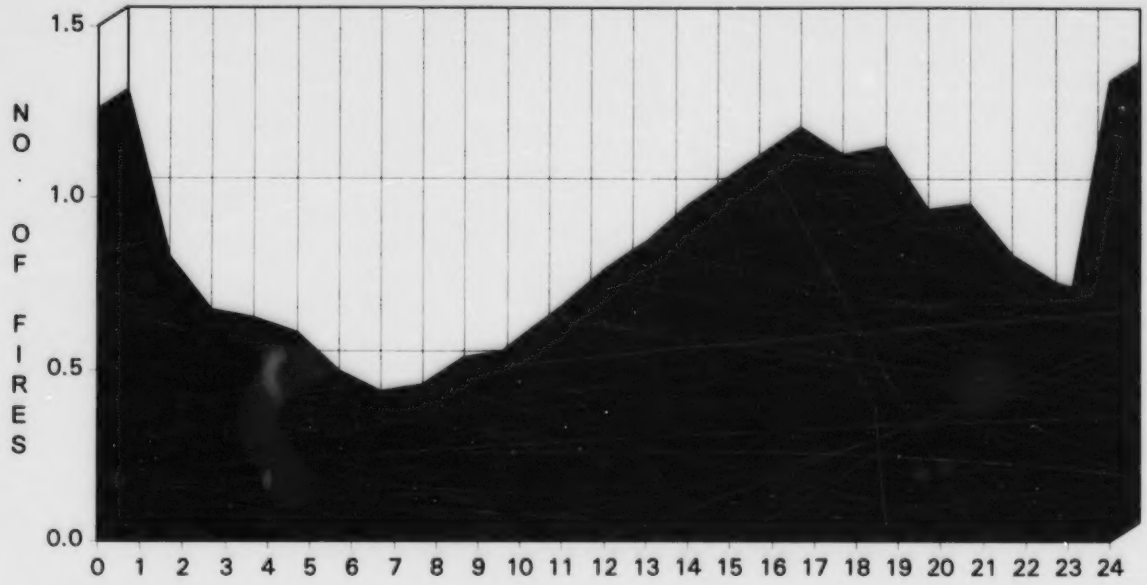


Average Fire Loss by Day of Week 1989 – 1998

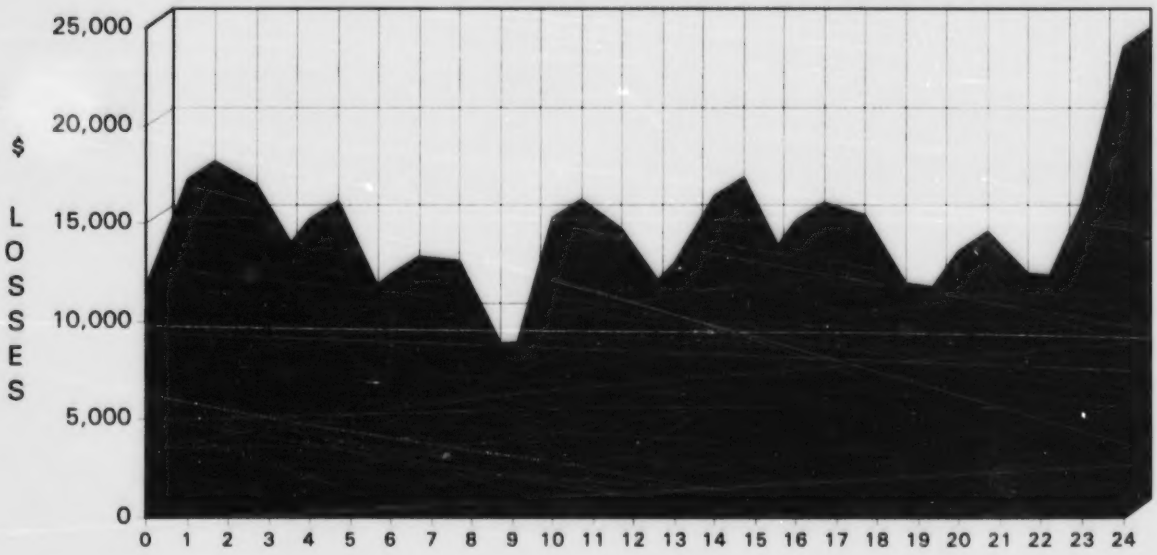


Commentary: The average number of fires was highest on Saturdays (21) but the highest average dollar loss occurred on Tuesdays ($365,404).

Average Number of Fires by Hour of Day 1989 – 1998



Average Fire Loss by Hour of Day 1989 – 1998



Commentary: 0 value for hour of day represents unknown time of fire. Where the time of fire was known, the number of fires peaked at 12 midnight, while the majority of fires occurred between the hours of 3 p.m. - 6 p.m. The average dollar loss was highest at 12 midnight ($24,004).

Fires by Loss Category - 1998

Loss Category	Fires	% Fires	$ Losses	% $ Losses
$1 - 99	758	11.5	11,460	0.0
$100 - 999	1897	28.9	630,222	0.5
$1,000 - 9,999	2313	35.2	7,969,014	5.7
$10,000 - 49,999	1045	15.9	22,766,899	16.4
$50,000 - 249,999	456	6.9	45,262,404	32.6
$250,000 - 499,999	69	1.1	22,711,501	16.4
$500,000 and over	32	0.5	39,372,433	28.4
Total	6570	100.0	138,723,933	100.0

1998 Large Loss Fires ($500,000 and over)

LOCATION	PROPERTY CLASS	ACT OR OMISSION	$ LOSSES
Airdrie City	Petroleum refineries	Part failure, leak, break	1,500,000
Calgary City	One and two family dwellings	Ignorance of hazard	1,033,107
Calgary City	Apartments	Smoker's material	2,142,932
Calgary City	Cement mfg.	Suspected arson	500,000
Calgary City	Church/chapel	Electrical short circuit	1,800,000
Calgary City	Church/chapel	Arson for vengeful/spiteful purposes	863,845
Calmar	Supermarket (over 1000 sq. m)	Arson for obscuring other crimes	750,000
Devon	Petroleum refineries	Unknown	700,000
Edmonton City	Restaurant/cafe/diner	Arson/set fire-Unknown	800,000
Edmonton City	Chem./petro./paint/plastic mfg.-Unclass.	Unknown	1,626,484
Edmonton City	Nightclub	Arson/set fire-Unknown	950,000
Fairview M.D. #136	Warehouse (general)	Constrn./design/installn. def.-Unknown	667,485
Grande Prairie Cty #1	Heavy machine/equipment parking	Unknown	2,303,258
High Prairie	Elevators/grain (commercial)	Mech., Elect. Failure-Unknown	2,250,000
Hinton	Civic/gov't office	Mech., Elect. Failure-Unknown	1,000,000
Indian Reserves	Auditorium/concert hall	Suspected arson	500,000
Lacombe Cty #14	Animal barn (cattle/pigs/horses etc.)	Welding or cutting too close to	950,000
Lethbridge Cty #26	Agric. product (packaged for storage)	Unknown	1,162,554
Lloydminster City	Metal products mfg.	Electrical short circuit	555,000
Parkland Cty #31	Industrial mfg.-Unclass.	Unknown	821,479
Peace River	Warehouse (general)	Smoker's material	927,622
Provost	Hotel/inn/lodge (year round use)	Unknown	602,000
Red Deer Cty #23	Petroleum refineries	Unknown	750,000
Rocky View M.D. #44	Agric. product storage-Unclass.	Unknown	1,085,597
Rocky View M.D. #44	Ballroom/gym/community hall	Combustible placed too close to heat	1,000,000
Spruce Grove City	Apartments	Smoker's material	1,022,836
St. Paul Cty #19	General maintenance shop	Part failure, leak, break	581,000
Stony Plain	Grain mill products mfg.	Electrical short circuit	500,000
Strathcona County	Petroleum refineries	Part failure, leak, break	700,000
Whitecourt	Restaurant/cafe/diner	Unknown	1,327,254
Wood Buffalo Spec. Munic.	Flamm. liq. distrib. system/pipeline	Part failure, leak, break	2,000,000
Wood Buffalo Spec. Munic.	Petroleum/nat. gas well	Part worn out	8,000,000

Fire Losses by Major Property Classifications – 1998

Property Classification		No. of Fires	% Of Total	$ Losses	% Of Total
Assembly	Theatre, Studio, Auditorium	5	0.1	700,599	0.5
	Amusement, Recreation Place	23	0.4	1,902,800	1.4
	School, College, University	60	0.9	154,463	0.1
	Church, Funeral Parlour	13	0.2	2,912,392	2.1
	Clubs, Social, Sport	7	0.1	253,336	0.2
	Museum, Art Gallery, Library	3	0.0	83,050	0.1
	Food or Beverage Establishment	63	1.0	4,374,688	3.2
	Passenger Terminal, Station	2	0.0	103,000	0.1
	Sub Total	176	2.7	10,484,328	7.6
Institutional	Prison, Jail, Reformatory	6	0.1	3,501	0.0
	Home for the Aged	18	0.3	32,661	0.0
	Child Care	1	0.0	100	0.0
	Hospital, Sanatorium, Clinic	17	0.3	31,211	0.0
	Miscellaneous	3	0.0	325,752	0.2
	Sub Total	45	0.7	393,225	0.3
Residential	Miscellaneous	7	0.1	2,002	0.0
	One and Two Family Dwellings	1096	16.7	32,923,699	23.7
	Apartment, Tenement	378	5.8	8,722,839	6.3
	Rooming, Boarding House	5	0.1	455	0.0
	Hotel	34	0.5	1,159,377	0.8
	Motor Hotel	8	0.1	36,050	0.0
	Dormitory	10	0.2	188,501	0.1
	Mobile Home, Trailer	206	3.1	4,666,746	3.4
	Sub Total	1744	26.5	47,699,669	34.4
Business and Personal Service	Miscellaneous	5	0.1	31,100	0.0
	Office	36	0.5	2,293,613	1.7
	Personal Service	5	0.1	97,950	0.1
	Electronic Equipment	1	0.0	126,671	0.1
	Sub Total	47	0.7	2,549,334	1.8

(CONTINUED)

Fire Losses by Major Property Classifications – 1998 (cont'd)

Property Classification		No. of Fires	% Of Total	$ Losses	% Of Total
Mercantile	Miscellaneous	6	0.1	196,582	0.1
	Food, Beverage Sale	29	0.4	1,438,643	1.0
	Textile, Wearing Apparel Sale	4	0.1	10,287	0.0
	Furniture, Appliance, Hardware Sales	4	0.1	434,500	0.3
	Books, Newspapers, Drugs, Specialties	12	0.2	215,064	0.2
	Recreation, Hobby Supplies	3	0.0	471,164	0.3
	Repair Shop, Laundry, Dry Cleaner	22	0.3	2,020,383	1.5
	Motor Vehicles, Boats, Sales & Service	28	0.4	1,433,154	1.0
	Department, Variety Store	17	0.3	433,586	0.3
	Sub Total	125	1.9	6,653,363	4.8
Industrial Manufacturing Properties	Miscellaneous	22	0.3	1,383,117	1.0
	Chemicals, Petroleum, Paints, Plastics	37	0.6	6,339,169	4.6
	Wood, Furniture, Paper, Printing	29	0.4	1,417,784	1.0
	Metal/(Products), Elect. Equip. & Appl.	13	0.2	796,955	0.6
	Food Processing	24	0.4	789,505	0.6
	Beverage, Tobacco, Soap, Margarine	4	0.1	98,100	0.1
	Wearing Apparel, Footwear	1	0.0	410,000	0.3
	Vehicles and Related Equipment	1	0.0	500	0.0
	Sub Total	131	2.0	11,235,130	8.1
Storage Properties	Miscellaneous	40	0.6	2,595,016	1.9
	Agricultural Products	15	0.2	4,954,718	3.6
	Textiles, Fibres, Clothing	1	0.0	1	0.0
	Processed Food, Beverage	5	0.1	488,775	0.4
	Flammable Liq., Gases, Petro. Products	10	0.2	513,596	0.4

(CONTINUED)

Fire Losses by Major Property Classifications – 1998 (cont'd)

Property Classification		No. of Fires	% Of Total	$ Losses	% Of Total
Storage Properties	Wood, Furniture, Paper and Products	56	0.9	765,023	0.6
	Chemicals, Plastics, Paints	4	0.1	46,896	0.0
	Metal Products, Machinery, Elect. Appl.	10	0.2	198,723	0.1
	Vehicle	262	4.0	6,957,284	5.0
	Sub Total	403	6.1	16,520,032	11.9
Special Property-Transportation Equip.	Outdoor Property	1068	16.3	324,374	0.2
	Special Connecting Thoroughfares	5	0.1	15,100	0.0
	Under Construction/Demolition: Vacant	117	1.8	3,076,454	2.2
	Watercraft	9	0.1	57,449	0.0
	Rail Transport Vehicle and Equipment	9	0.1	198,100	0.1
	Ground Transport Vehicle	1724	26.2	9,132,780	6.6
	Aircraft	1	0.0	160,000	0.1
	Special Vehicles	295	4.5	10,707,821	7.7
	Sub Total	3228	49.1	23,672,078	17.1
Miscellaneous Property	Miscellaneous	16	0.2	85,415	0.1
	Laboratories	3	0.0	5,600	0.0
	Farm Facilities	342	5.2	8,094,601	5.8
	Miscellaneous Outbuildings	201	3.1	864,204	0.6
	Utility	86	1.3	2,433,652	1.8
	Cement, Glass, Pottery Manufacturing	3	0.0	505,500	0.4
	Mining, Quarrying	14	0.2	7,192,301	5.2
	Communications	6	0.1	335,501	0.2
	Sub Total	671	10.2	19,516,774	14.1
Total		6570	100.0	138,723,933	100.0

Commentary: The largest number of fires occurred in ground transport vehicles (1,724 or 26%), one and two family dwellings (1,096 or 17%) and outdoor property (1,068 or 16%). The highest dollar losses were in one and two family dwellings ($32,923,699 or 24%), followed by special vehicles ($10,707,821 or 8%) and ground transport vehicles ($9,132,780 or 7%).

Property Losses Related to Area of Origin - 1998

Property Classification	Means of Egress		Assembly Area		Function Area		Storage Area	
	No. Of Fires	Losses	No. Of Fires	Losses	No. Of Fires	Losses	No. Of Fires	Losses
Assembly	18	236,742	12	1,395,006	75	6,239,959	6	274,099
Institutional	1	300	5	25,350	27	362,114	1	450
Residential	59	1,392,543	178	9,598,113	842	16,000,078	80	3,114,764
Business and Personal Service	8	30,745	1	120,000	15	1,410,668	4	5,605
Mercantile	7	17,550	10	83,176	19	740,854	23	2,152,824
Industrial Manufacturing Properties	2	525	1	410,000	33	5,632,144	12	729,250
Storage Properties	1	2,500	.	.	6	413,000	149	6,243,995
Special Property Transportation Equip.	4	112,720	6	55,030	24	536,003	14	220,525
Miscellaneous Property	1	500	.	.	15	688,898	117	3,702,962
Total	101	1,794,125	213	11,686,675	1056	32,023,718	406	16,444,474

Property Classification	Service Facilities		Service & Equipment Area		Structural Area		Vehicle Area	
	No. Of Fires	Losses	No. Of Fires	Losses	No. Of Fires	Losses	No. Of Fires	Losses
Assembly	1	1	8	440,199	43	1,695,199	.	.
Institutional	1	1	6	3,000	.	.	.	.
Residential	48	793,885	73	2,421,312	283	7,889,749	34	1,169,063
Business and Personal Service	1	100	7	249,082	6	88,850	.	.
Mercantile	.	.	22	2,198,781	32	835,389	3	483,781
Industrial Manufacturing Properties	9	109,850	26	918,389	16	132,145	.	.
Storage Properties	2	1,001	18	2,298,945	122	2,421,055	20	639,419
Special Property Transportation Equip.	.	.	6	361,260	34	1,157,213	2038	20,255,151
Miscellaneous Property	2	26,200	12	973,851	232	2,097,422	22	230,788
Total	64	931,038	180	9,864,819	768	16,317,022	2117	22,778,202

Property Losses Related to Area of Origin – 1998 (cont'd)

Property Classification	Outside Area		Unknown	
	No. Of Fires	Losses	No. Of Fires	Losses
Assembly	9	11,602	4	191,521
Institutional	3	2,000	1	10
Residential	73	1,336,566	74	3,983,596
Business and Personal Service	.	.	5	644,284
Mercantile	7	51,601	2	89,407
Industrial Manufacturing Properties	19	1,761,354	11	1,541,473
Storage Properties	72	562,943	13	3,937,174
Special Property Transportation Equip.	1077	341,824	25	632,352
Miscellaneous Property	235	10,306,119	35	1,490,034
Total	1495	14,374,009	170	12,509,851

Commentary: The most frequent areas of fire origin were in vehicle (32%), outside (23%), function (16%) and structural areas (12 %).

Property Losses Related to Act or Omission – 1998

Property Classification	Incendiary		Misuse of Source of Ignition		Misuse of Material Ignited		Mech., Electr. Failure, Malfunction	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	78	4,929,326	17	100,351	14	1,088,237	30	1,955,718
Institutional	10	22,701	6	4,851	5	2,510	13	16,201
Residential	196	5,005,331	353	10,310,556	302	4,984,136	293	7,878,355
Business and Personal Service	11	388,235	6	182,650	1	500	18	1,636,457
Mercantile	28	937,457	26	687,074	13	1,162,107	34	3,082,096
Industrial Manufacturing Properties	5	889,561	21	466,577	13	142,124	46	4,704,744
Storage Properties	135	1,057,938	73	1,771,538	27	923,762	61	4,752,354
Special Property Transportation Equip.	841	3,277,964	403	1,590,890	61	414,521	1262	9,226,756
Miscellaneous Property	120	1,149,151	182	1,849,385	30	518,457	119	12,383,423
Total	1424	17,657,664	1087	16,963,872	466	9,236,354	1876	45,636,104

Property Classification	Constructn., Design, Installn. Def.		Misuse of Equipment		Human Failing		Vehicle Accident	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	3	200,000	3	3,051	20	184,970	.	.
Institutional	.	.	.	.	7	2,410	.	.
Residential	42	828,868	11	293,266	363	7,886,640	2	37,000
Business and Personal Service	2	800	.	.	6	157,450	.	.
Mercantile	5	121,480	1	110	10	180,089	.	.
Industrial Manufacturing Properties	2	8,500	4	23,090	15	24,353	.	.
Storage Properties	12	791,449	2	178,314	24	907,493	.	.
Special Property Transportation Equip.	17	128,077	5	11,020	84	1,638,814	48	924,948
Miscellaneous Property	9	404,501	2	50,500	26	650,048	3	2,800
Total	92	2,483,675	28	559,351	555	11,632,267	51	964,748

Property Losses Related to Act or Omission – 1998 (cont'd)

Property Classification	Miscellaneous		Unknown	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	1	50	10	2,022,625
Institutional	.	.	4	344,552
Residential	30	1,201,905	152	9,273,612
Business and Personal Service	.	.	3	183,242
Mercantile	1	1,000	7	481,950
Industrial Manufacturing Properties	9	234,461	16	4,741,720
Storage Properties	10	458,824	59	5,678,360
Special Property Transportation Equip.	51	362,009	458	6,097,079
Miscellaneous Property	57	533,072	123	1,975,437
Total	159	2,791,321	832	30,798,577

Commentary: Human failing (21%), misuse of source of ignition (20%), misuse of material first ignited (17%), and mechanical, electrical failure/malfunction (17%) were the most frequent known acts or omissions in the residential property grouping.

Within the special property/transportation equipment grouping (made up of outdoor property, buildings under construction/demolition and vehicles) the most common known acts or omissions were mechanical, electrical failure/malfunction (39%) and incendiary (26%).

Incendiary fires in all property classes accounted for 22%, and act or omission was unknown or undetermined in 13% of the fires in Alberta during 1998.

Property Losses Related to Source of Ignition 1998

Property Classification	Cooking Equipment		Heating Equipment		Appliances & Equipment		Electrical Distribution Equipment	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	34	840,916	10	1,568,733	8	10,750	14	238,677
Institutional	6	4,500	1	50	9	13,500	1	250
Residential	436	6,879,659	154	4,366,238	126	3,312,001	116	3,525,276
Business and Personal Service	2	120,300	5	1,252,581	3	63,195	7	17,451
Mercantile	11	1,202,848	16	1,694,900	5	79,570	15	1,221,167
Industrial Manufacturing Properties	11	87,948	15	531,572	4	61,000	9	1,099,010
Storage Properties	7	93,650	25	1,988,524	3	76,019	35	1,408,591
Special Property Transportation Equip.	35	30,551	22	711,840	8	10,173	726	4,700,458
Miscellaneous Property	12	202,696	18	1,426,463	6	527,428	57	3,474,353
Total	554	9,463,068	266	13,540,901	172	4,153,636	980	15,685,233

Property Classification	Other Electrical Equipment		Smoker's Material & 'Open' Flames		Exposure		Miscellaneous	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	6	1,812,900	58	2,168,872	13	245,498	4	353,150
Institutional	5	2,710	17	26,062	.	.	1	1
Residential	53	1,295,186	497	13,710,589	123	2,701,988	28	673,919
Business and Personal Service	2	20,000	16	266,438	.	.	3	175,650
Mercantile	7	480,100	37	714,849	14	88,737	5	13,516
Industrial Manufacturing Properties	3	853,960	29	1,180,883	7	108,718	37	2,561,982
Storage Properties	15	2,513,531	102	1,128,639	103	2,269,390	24	358,655
Special Property Transportation Equip.	15	320,122	790	2,200,847	355	1,283,293	437	4,128,445
Miscellaneous Property	21	186,146	124	1,723,021	244	1,264,860	57	7,369,128
Total	127	7,484,655	1670	23,120,200	859	7,982,484	598	15,634,426

Property Losses Related to Source of Ignition - 1998

Property Classification	No Igniting Object		Unknown	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	.	.	29	3,244,832
Institutional	.	.	5	346,152
Residential	8	561,794	203	10,673,019
Business and Personal Service	.	.	9	633,719
Mercantile	.	.	15	1,157,676
Industrial Manufacturing Properties	1	. 1,000	15	4,749,077
Storage Properties	3	427,136	86	6,255,897
Special Property Transportation Equip.	4	17,975	836	10,268,374
Miscellaneous Property	17	129,785	115	3,212,894
Total	33	1,137,690	1313	40,541,640

Commentary: Smoker's material and 'open' flames (25%), electrical distribution equipment (15%), exposure fires (15%) and cooking equipment (8%) were the most common sources of ignition.

In residential properties the most common sources of ignition were smoker's material and 'open' flames (28%), cooking equipment (25%) and heating equipment (9%).

Sources of ignition were unknown in 20% of the fires in 1998, and these fires caused an average dollar loss of $30,877 per fire.

Property Losses Related to Fuel or Energy - 1998

Property Classification	Coal or Wood, etc.		Fuel Oil		Gasoline		Natural Gas or Other Fuel Gas	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	5	33,901	.	.	2	10,000	34	2,358,706
Business and Personal Service	.	.	.	.	.	.	5	252,881
Industrial Manufacturing Properties	5	24,175	1	1	.	.	35	1,248,803
Institutional	.	.	.	.	.	.	4	750
Mercantile	1	768	2	12,000	1	500	30	2,213,279
Miscellaneous Property	15	233,766	3	5,750	20	433,866	18	1,184,925
Residential	93	3,649,850	3	201,985	15	580,593	149	2,559,239
Special Property Transportation Equip.	7	1,801	24	475,294	278	1,633,213	92	1,567,108
Storage Properties	11	280,154	2	46,151	8	399,282	29	1,825,956
Total	137	4,224,415	35	741,181	324	3,057,454	396	13,211,647

Property Classification	Electricity		Exposure Fire		Lightning		Smokers Material	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	36	2,069,590	13	245,498	.	.	48	2,153,751
Business and Personal Service	17	1,270,096	.	.	.	.	11	195,038
Industrial Manufacturing Properties	29	2,039,097	7	108,718	1	1,000	7	785,561
Institutional	19	20,360	.	.	.	.	16	25,962
Mercantile	38	2,999,892	14	88,737	.	.	20	126,495
Miscellaneous Property	89	3,753,183	244	1,264,860	17	129,785	67	180,744
Residential	655	13,179,673	124	2,784,988	9	570,010	356	10,130,152
Special Property Transportation Equip.	752	5,106,263	355	1,283,293	4	17,975	683	1,493,746
Storage Properties	65	4,091,032	103	2,269,390	3	427,136	68	506,808
Total	1700	34,529,186	860	8,045,484	34	1,145,906	1276	15,598,255

Property Losses Related to Fuel or Energy – 1998 (cont'd)

Property Classification	Unclassified		Unknown	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	5	355,170	33	3,257,712
Business and Personal Service	4	22,600	10	808,719
Industrial Manufacturing Properties	20	2,084,275	26	4,943,500
Institutional	1	1	5	346,152
Mercantile	4	54,016	15	1,157,676
Miscellaneous Property	74	7,600,656	124	4,729,239
Residential	121	3,184,611	219	10,858,568
Special Property Transportation Equip.	173	1,484,067	860	10,609,318
Storage Properties	25	412,327	89	6,261,798
Total	427	15,197,723	1381	42,972,682

Commentary: Where known, the most common fuel or energy associated with the source of ignition were electricity (26%), smoker's material (19%), exposure fires (13%) and natural gas or other fuel gas (6%).

Fires where the fuel or energy is unknown accounted for 21% of the fires in 1998.

Property Losses Related to Material First Ignited - 1998

Property Classification	Clothing, Textiles		Furniture, Furnishings		Structural Components		Wood, Paper Products	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	13	140,931	7	1,004,500	27	335,647	35	2,243,933
Business and Personal Service	.	.	.	.	6	101,850	8	70,946
Industrial Manufacturing Properties	3	80,000	1	150,000	9	587,269	29	927,210
Institutional	7	3,460	4	15,200	1	2,700	5	2,851
Mercantile	5	18,202	4	405,955	26	2,005,783	19	687,173
Miscellaneous Property	5	13,217	5	286,600	179	3,173,773	48	219,993
Residential	120	1,821,319	233	9,018,991	308	9,253,291	162	4,180,190
Special Property Transportation Equip.	35	93,932	43	196,566	45	991,407	236	926,766
Storage Properties	10	232,429	10	57,033	128	4,781,120	66	836,607
Total	198	2,403,490	307	11,134,845	729	21,212,840	608	10,095,669

Property Classification	Agricultural Products		Chemicals		Flammable & Combustible Liquids		Flammable Gases	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	3	5,301	12	128,573	28	241,276	7	1,767,490
Business and Personal Service	.	.	3	127,150	2	15,300	4	238,881
Industrial Manufacturing Properties	5	155,481	10	20,736	31	4,009,986	13	1,073,995
Institutional	2	650	4	11,300	4	2,900	.	.
Mercantile	2	26	6	136,747	14	938,114	6	54,551
Miscellaneous Property	165	1,331,249	8	360,056	41	9,287,390	13	652,861
Residential	69	1,015,343	78	1,920,309	308	5,598,584	31	297,364
Special Property Transportation Equip.	343	2,775,896	134	1,214,892	579	4,173,083	60	759,394
Storage Properties	12	250,322	14	885,600	42	1,266,077	10	1,460,545
Total	601	5,534,268	269	4,805,363	1049	25,532,710	144	6,305,081

Property Losses Related to Material First Ignited – 1998 (cont'd)

Property Classification	Miscellaneous		Unknown	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	24	2,231,302	20	2,385,375
Business and Personal Service	12	160,688	12	1,834,519
Industrial Manufacturing Properties	9	49,002	21	4,201,451
Institutional	11	6,952	7	347,212
Mercantile	24	1,264,691	19	1,142,121
Miscellaneous Property	43	281,375	164	3,910,260
Residential	198	3,040,033	237	11,554,245
Special Property Transportation Equip.	828	1,889,286	925	10,650,856
Storage Properties	41	747,759	70	6,002,540
Total	1190	9,671,088	1475	42,028,579

Commentary: Where defined, the materials most commonly ignited first were flammable & combustible liquids (16%), structural components (11%), wood, paper products (9%) and agricultural products (9%).

Materials first ignited were unknown in 22% of the fires in 1998.

Property Losses Related to Initial Detection - 1998

Property Classification	Automatic Systems		Heat Alarm/Detector Device		Smoke Alarm/Detector Device		Visual Sighting/Personal Detection	
	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses	No. Of Fires	$ Losses
Assembly	5	956,700	5	1,018,846	12	20,913	149	7,915,853
Business and Personal Service	2	55,000	1	5,200	4	137,880	38	2,329,383
Industrial Manufacturing Properties	5	12,401	2	35,000	6	310,501	115	10,465,228
Institutional	.	.	2	1,000	14	44,312	28	346,913
Mercantile	4	541,125	3	502,933	3	3,400	112	5,491,905
Miscellaneous Property	1	4,500	.	.	1	500	656	19,388,988
Residential	9	292,673	3	8,000	215	3,947,831	1451	41,055,249
Special Property Transportation Equip.	.	.	.	.	.	.	3218	23,363,840
Storage Properties	3	6,001	2	1,250	1	2,000	393	16,482,238
Total	29	1,868,400	18	1,572,229	256	4,467,337	6160	126,839,577

Property Classification	Unclassified or Unknown	
	No. Of Fires	$ Losses
Assembly	5	572,016
Business and Personal Service	2	21,871
Industrial Manufacturing Properties	3	412,000
Institutional	1	1,000
Mercantile	3	114,000
Miscellaneous Property	13	122,806
Residential	68	2,395,916
Special Property Transportation Equip.	10	308,238
Storage Properties	4	28,543
Total	107	3,976,390

Commentary: Visual sighting or other means of personal detection accounted for 94% of all means of initial detection of fires in 1998, while smoke alarm/detector devices accounted for 4%.

Fires by Method of Fire Control and Extinguishment - 1998

Method of Fire Control and Extinguishment		No. of Fires	% Of Total	$ Losses	% Of Total
Hand Fire Extinguisher	Water pump tank	102	1.6	493,427	0.4
	Water pressurized	63	1.0	1,011,461	0.7
	Water soda-acid	1	0.0	450	0.0
	Foam	29	0.4	228,493	0.2
	Vapourizing liquid/Halon	3	0.0	2,215	0.0
	CO2	20	0.3	64,189	0.0
	Dry chemical	382	5.8	1,977,413	1.4
	Multipurpose dry chemical	68	1.0	172,753	0.1
	Hand fire extinguisher-Unclassified	20	0.3	36,013	0.0
	Sub Total	688	10.5	3,986,414	2.9
Standpipe System	Sm. hose/38 mm straight stream noz.	20	0.3	31,492	0.0
	Sm. hose/38 mm combination noz.	87	1.3	910,057	0.7
	Lge. hose/65 mm straight stream noz.	1	0.0	5,100	0.0
	Lge. hose/65 mm combination noz.	1	0.0	63,000	0.0
	Cont. flow/<38 mm combination noz.	1	0.0	40,000	0.0
	Standpipe system-Unclassified	1	0.0	6,000	0.0
	Sub Total	111	1.7	1,055,649	0.8
"Makeshift" Firefighting Aid	Garden hose	142	2.2	946,917	0.7
	Water bucket	116	1.8	376,549	0.3
	Small water container	148	2.3	486,299	0.4
	Sand bucket	1	0.0	2,000	0.0
	Dry chemical and scoop	5	0.1	902	0.0
	Baking soda	12	0.2	24,345	0.0
	Smothered by covering	67	1.0	141,765	0.1
	Snow	49	0.7	55,308	0.0
	Makeshift fire fighting aid-Unclassified	50	0.8	104,679	0.1
	Sub Total	590	9.0	2,138,764	1.5

(CONTINUED)

Fires by Method of Fire Control and Extinguishment - 1998 (cont'd)

Method of Fire Control and Extinguishment		No. of Fires	% Of Total	$ Losses	% Of Total
Fire Department-Water	Booster hose, 25 mm or less	173	2.6	196,291	0.1
	38 mm hose, 1 hoseline	1798	27.4	11,305,088	8.1
	38 mm hose, 2 or more	987	15.0	30,297,518	21.8
	65 mm hose, 1 hoseline	26	0.4	455,130	0.3
	65 mm hose, 2 or more	35	0.5	1,948,587	1.4
	77 mm or larger hose, 1 or more	7	0.1	217,719	0.2
	Comb. of 38 mm, 65 mm, 77 mm or larger	406	6.2	44,066,902	31.8
	Portable water deluge set	11	0.2	728,850	0.5
	Fire department - water-Unclassified	105	1.6	2,608,287	1.9
	Sub Total	3548	54.0	91,824,372	66.2
Fire Department - Other Than Water	Pumper, foam hand. only, via eductor	86	1.3	2,550,166	1.8
	Vehicle, dry chemical, under 450 kg	1	0.0	1,500	0.0
	Fire dept. - other than water-Unclass.	18	0.3	83,205	0.1
	Sub Total	105	1.6	2,634,871	1.9
Sprinkler System	Wet pipe sys., alarm conn. to fire dept.	13	0.2	292,752	0.2
	Wet pipe sys., local alarm only	4	0.1	121,540	0.1
	Dry pipe sys., alarm conn. to fire dept.	3	0.0	251	0.0
	Sprinkler system-Unclassified	4	0.1	214,129	0.2
	Sub Total	24	0.4	628,672	0.5
Fixed System- Other Than Sprinklers	Dry chemical system	7	0.1	6,286	0.0
	Foam-water system	3	0.0	140,000	0.1
	Fixed sys. excluding sprinkler-Unclass.	2	0.0	110,000	0.1
	Sub Total	12	0.2	256,286	0.2

(CONTINUED)

Fires by Method of Fire Control and Extinguishment - 1998 (cont'd)

Method of Fire Control and Extinguishment		No. of Fires	% Of Total	$ Losses	% Of Total
Burned Out	Burned out before fire dept. arrival	216	3.3	1,869,809	1.3
	Incapable of controlling	17	0.3	1,595,669	1.2
	Burned out-Unclassified	71	1.1	439,612	0.3
	Sub Total	304	4.6	3,905,090	2.8
Miscellaneous	Dry chem. handhose sys., => 25 kg	2	0.0	1,000	0.0
	Miscellaneous-Unclassified	77	1.2	571,653	0.4
	Sub Total	79	1.2	572,653	0.4
Unknown	Miscellaneous-Unknown	1109	16.9	31,721,162	22.9
	Sub Total	1109	16.9	31,721,162	22.9
Total		6570	100.0	138,723,933	100.0

Commentary: Where the method of fire control and extinguishment is known, fire departments extinguished 56% of all fires, while hand fire extinguishers and makeshift fire fighting equipment were used to extinguish 10% and 9% of fires, respectively.

SECTION 3

Alberta Home Fire Losses

Fire Commissioner's Statistical Report

1 9 9 8

Home Fires by Type of Home - 1998

Type of Home	Fires	% Of Fires	Deaths	% Of Deaths	Injuries	% Of Injuries	$ Losses	% Of $ Losses
One/Two Family Dwellings	1096	69	8	73	153	58	32,923,699	73
Apartments, Tenements, Flats	378	24	3	27	103	39	8,722,839	19
Mobile Homes	118	7	0	0	10	4	3,396,237	8
Total	1592	100	11	100	266	100	45,042,775	100

Commentary: Twenty-seven percent of all fires occurred in homes. Home fires accounted for 55% of all fire deaths (11 out of 20), 66% of all fire injuries and 34% of all dollar losses. All 11 deaths in homes were fire deaths. Thus, home fires accounted for 92% (11 of 12) of fire deaths in the province.

Home Fires by Major Areas of Fire Origin - 1998

Area of Origin	Fires	% Of Fires	Deaths	% Of Deaths	Injuries	% Of Injuries	$ Losses	% Of $ Losses
Kitchen/cooking area	442	28	5	45	90	34	7,383,638	16
Sleeping (under 5 occupants)	194	12	3	27	50	19	4,697,245	10
Living/rec./family room, lounge, den	177	11	2	18	38	14	9,597,863	21
Structural Areas	176	11	0	0	14	5	5,596,255	12
Laundry area	90	6	0	0	9	3	1,222,955	3
Exterior wall	80	5	0	0	1	0	1,856,720	4
Heating equipment room	65	4	0	0	19	7	2,350,011	5
Court/patio/terrace	60	4	1	9	2	1	1,171,121	3
Other*	249	16	0	0	43	16	7,340,274	16
Unknown	59	4	0	0	0	0	3,826,693	8
Total	1592	100	11	100	266	100	45,042,775	100

Commentary: Most home fires started in the kitchen/cooking area (28%). These fires resulted in the highest percentage of both deaths (45%) and injuries (34%). The highest dollar loss occurred in the living/rec/family room/lounge/den (21%).

* "Other" category includes areas of origin contributing individually to less than 3% of home fires.

Home Fires by Major Areas of Fire Origin and Sources of Ignition – 1998

Area of Origin	Source of Ignition	No. Of Fires	% Of Fires	Deaths	Injuries	$ Losses
Kitchen/cooking area	Stove/top burner (fire in pan)	150	34	1	34	1,729,540
	Stove/top burner (deep fat fryer/pot)	98	22	0	30	1,540,629
	Stove/top burner (other circumstances)	65	15	0	7	925,166
	Other smoker's mtl./open flames	24	5	0	7	394,974
	Oven of stove/range	39	9	0	0	203,981
	Other cooking eqpt.	28	6	4	6	1,503,225
	Other	38	9	0	6	1,086,123
	Area of Origin Total	442	100	5	90	7,383,638
Sleeping (under 5 occupants	Smoker's material	49	25	2	10	645,597
	Candle, taper	35	18	0	19	793,133
	Match/lighter (not with smoking)	38	20	0	13	1,021,147
	Other electrical eqpt.	12	6	0	0	190,578
	Incandescent lamp/lightbulb/heat lamp	16	8	0	5	427,042
	Other appliances/eqpt.	13	7	0	0	170,306
	Other	31	16	1	3	1,449,442
	Area of Origin Total	194	100	3	50	4,697,245
Living/rec./family room, lounge, den	Smoker's material	47	27	1	13	3,451,475
	Candle, taper	27	15	0	5	936,857
	Match/lighter (not with smoking)	21	12	0	1	1,086,613
	Other electrical eqpt.	15	8	0	3	524,750
	Other heating eqpt.	15	8	0	6	715,187
	Fireplace	20	11	0	2	468,282
	Other	32	18	1	8	2,414,699
	Area of Origin Total	177	100	2	38	9,597,863

(CONTINUED)

Home Fires by Major Areas of Fire Origin and Sources of Ignition – 1998 (cont'd)

Area of Origin	Source of Ignition	No. Of Fires	% Of Fires	Deaths	Injuries	$ Losses
Structural Areas	Smoker's material	19	11	0	1	1,108,356
	Exposure from detached structure fire	19	11	0	0	272,472
	Other smoker's mtl./open flames	16	9	0	0	708,492
	Other electrical eqpt.	17	10	0	1	471,382
	Other heating eqpt.	19	11	0	4	746,374
	Other cooking eqpt.	10	6	0	0	54,753
	Permanent electrical wiring/cable	20	11	0	6	881,469
	Torch, other than cutting, welding	12	7	0	0	99,338
	Other exposure fires	10	6	0	0	121,604
	Other	34	19	0	2	1,132,015
	Area of Origin Total	176	100	0	14	5,596,255
Laundry area	Smoker's material	6	7	0	0	56,129
	Dryer for clothes	50	56	0	2	841,712
	Other heating eqpt.	7	8	0	7	18,301
	Washing machine	7	8	0	0	5,760
	Other	20	22	0	0	301,053
	Area of Origin Total	90	100	0	9	1,222,955
Exterior wall	Exposure from detached structure fire	52	65	0	0	1,060,768
	Other smoker's mtl./open flames	9	11	0	1	297,891
	Exposure from unclassified source	8	10	0	0	172,524
	Exposure from 'open' rubbish/camp fire	6	8	0	0	34,925
	Other	5	6	0	0	290,612
	Area of Origin Total	80	100	0	1	1,856,720
Total		1159	100	10	202	30,354,676

Commentary: Most kitchen fires started on stove/top burners (71%) and these caused 10% of deaths and 35% of injuries in kitchens. Major sources of ignition in bedrooms were smoker's material (25%) and matches/lighters (not with smoking) (20%), and in the living rooms smoker's material (27%). Of the fires in the laundry area of the home, 56% started in the clothes dryer.

Home Fires by Major Ignition Scenarios - 1998

Area of Fire Origin=Kitchen/cooking area			No. Of Fires	% Of Fires	Deaths	Injuries	$ Losses
Source of Ignition	Act or Omission	Material First Ignited					
Stove/top burner (fire in pan)	Overheated cooking oil, grease, wax	Cooking oil/fat	88	20	1	26	1,245,739
		Other	3	1	0	1	4,724
	Distracted, preoccupied	Cooking oil/fat	13	3	0	0	174,450
		Other	11	2	0	1	59,813
	Other	Other	35	8	0	6	244,814
Stove/top burner (deep fat fryer/pot)	Overheated cooking oil, grease, wax	Cooking oil/fat	67	15	0	23	931,636
		Other	2	0	0	1	43,310
	Other	Other	29	7	0	6	565,683
Stove/top burner (other circumstance-s)	Combustible placed too close to heat	Other	12	3	0	1	46,358
		Plastics: not cellulose nitrate	4	1	0	1	77,109
	Accident	Other	9	2	0	2	367,816
		Plastics: not cellulose nitrate	3	1	0	0	79,068
	Other	Other	37	8	0	3	354,815
Oven of stove/range	Overheated cooking oil, grease, wax	Cooking oil/fat	6	1	0	0	6,186
		Other	3	1	0	0	63,243
	Combustible placed too close to heat	Other	5	1	0	0	29,126
		Plastics: not cellulose nitrate	2	0	0	0	19,827
	Part failure, leak, break	Other	3	1	0	0	40,201
		Unclassified	3	1	0	0	200
	Other	Other	17	4	0	0	45,198
Other	Other	Other	90	20	4	19	2,984,322
Total			442	100	5	90	7,383,638

Commentary: The most common ignition scenario (39%) in Alberta home kitchens is the ignition of overheated cooking oil on stovetops or in ovens of stoves. Cooking oil was the material first ignited in stovetop fires involving pans (67%) and deep-fat fryers or pots (68%). These fires caused 26% and 23% of injuries in kitchens, respectively.

Home Fires by Major Ignition Scenarios - 1998

Area of Fire Origin=Sleeping (under 5 occupants)			No. Of Fires	% Of Fires	Deaths	Injuries	$ Losses
Source of Ignition	Act or Omission	Material First Ignited					
Smoker's material	Smoker's material	Bedding	13	7	2	3	201,017
		Mattress/ pillow	12	6	0	0	117,653
		Other	11	6	0	1	213,547
	Other	Other	13	7	0	6	113,380
Match/lighter (not with smoking)	Child playing with	Mattress/ pillow	9	5	0	2	165,652
		Bedding	7	4	0	1	357,602
		Other	12	6	0	8	363,198
	Other	Other	10	5	0	2	134,695
Candle, taper	Accident	Other	22	11	0	12	510,155
	Other	Other	13	7	0	7	282,978
Incandescent lamp/lightbu-lb/heat lamp	Accident	Bedding/ clothing/ floor covering	4	4	0	0	85,325
	Combustible placed too close to heat	Fabric: cotton inc. finished goods	2	1	0	2	5,101
		Other	3	2	0	1	142,700
	Ignorance of hazard	Bedding	2	1	0	1	90,560
		Clothing: synthetic	1	1	0	0	12,069
	Other	Other	4	2	0	1	91,287
Other	Other	Other	36	19	1	0	1,019,764
Unknown/ unclassified	Other	Other	20	10	0	3	790,562
Total			194	100	3	50	4,697,245

Commentary: Careless disposal of smoker's material leading to the ignition of mattress/pillow/bedding/ other materials (26%), candles igniting nearby combustibles (18%), and children playing with matches/lighters setting fire to bedding and other combustibles (15%) were the leading ignition scenarios in bedrooms.

Home Fires by Major Ignition Scenarios - 1998

Area of Fire Origin=Living/rec./ family room, lounge, den			No. Of Fires	% Of Fires	Deaths	Injuries	$ Losses
Source of Ignition	Act or Omission	Material First Ignited					
Smoker's material	Smoker's material	Furniture (upholstered)	27	15	0	8	3,229,116
		Other	8	5	1	1	190,703
	Other	Other	12	7	0	4	31,656
Candle, taper	Accident	Other	14	8	0	0	354,636
		Furniture (not upholstered)	6	3	0	1	277,511
	Other	Other	7	4	0	4	304,710
Match/lighter (not with smoking	Child playing with	Other	9	5	0	0	544,043
	Arson for vengeful/ spiteful purposes	Mostly bedding/ drapery	4	4	0	0	321,000
	Other	Other	8	5	0	1	221,570
Fireplace	Ignorance of hazard	Other	9	6	0	1	101,236
	Other	Other	11	6	0	1	367,046
Heating eqpt.	Other	Other	15	8	0	6	715,187
Electrical eqpt.	Other	Other	15	8	0	3	524,750
Other	Other	Other	17	10	0	4	1,535,283
Unknown/ unclassified	Other	Other	15	8	1	4	879,416
Total			177	100	2	38	9,597,863

Commentary: The most frequent ignition scenario in living room fires is careless disposal of smoker's material igniting upholstered furniture (15%). The other frequent ignition scenario involves candles igniting combustibles (15%).

Home Fires by Major Ignition Scenarios - 1998

Area of Fire Origin=Structural Areas			No. Of Fires	% Of Fires	Deaths	Injuries	$ Losses
Source of Ignition	Act or Omission	Material First Ignited					
Permanent electrical wiring/cable	Electrical short circuit	Electric insulation in electric equip.	7	4	0	0	161,677
		Other	6	3	0	1	207,732
	Other	Other	7	4	0	5	512,060
Smoker's material	Smoker's material	Agricultural/-forestry products-Unclass.	12	7	0	0	77,414
		Other	7	4	0	1	1,030,942
Exposure from detached structure fire	Suspected arson	Roof covering: not wood	4	2	0	0	50,756
		Structural materials-Unknown	2	1	0	0	25,000
		Other	1	1	0	0	1,997
	Arson/set fire-Unknown	Exterior wall cover, eave	3	2	0	0	18,500
	Other	Other	9	5	0	0	176,219
Heating eqpt.	Other	Other	19	11	0	4	746,374
Electrical eqpt.	Other	Other	17	10	0	1	471,382
Smoker's mtl./open flames	Other	Other	16	9	0	0	708,492
Other	Other	Other	47	27	0	1	700,845
Unknown/ unclassified	Other	Other	19	11	0	1	706,865
Total			176	100	0	14	5,596,255

Commentary: The four major ignition scenarios in structural area fires involved primarily short circuits in permanent electrical wiring (11%), careless disposal of smoker's material (11%), exposure from a detached structure fire (11%), and heating equipment (11%).

Home Fires by Major Ignition Scenarios - 1998

Area of Fire Origin=Laundry area			No. Of Fires	% Of Fires	Deaths	Injuries	$ Losses
Source of Ignition	Act or Omission	Material First Ignited					
Dryer for clothes	Ignorance of hazard	Fibres/fibre products	11	12	0	2	355,434
		Clothing: synthetic	6	7	0	0	14,372
		Other	3	3	0	0	1,100
	Mech., Elect. Failure-Unknown	Clothing: synthetic	4	4	0	0	21,030
		Clothing/textiles-Unknown	2	2	0	0	40,500
		Other	2	2	0	0	77,920
	Other	Other	22	24	0	0	331,356
Washing machine	Other	Other	4	4	0	0	5,160
	Electrical short circuit	Electric insulation in electric equip.	2	2	0	0	500
		Chemicals/plastics/metals-Unclassified	1	1	0	0	100
Heating eqpt.	Other	Other	7	8	0	7	18,301
Other	Other	Other	16	18	0	0	255,154
Unknown/ unclassified	Other	Other	10	11	0	0	102,028
Total			90	100	0	9	1,222,955

Commentary: The major ignition scenario in the laundry area (54%) was in the clothes dryer, where lint, clothing and other materials ignited due to ignorance of hazard (not cleaning the lint trap) or mechanical/electrical failure.

Home Fires by Major Ignition Scenarios - 1998

Area of Fire Origin=Exterior wall			No. Of Fires	% Of Fires	Deaths	Injuries	$ Losses
Source of Ignition	Act or Omission	Material First Ignited					
Exposure from detached, structure fire	Arson/set fire-Unknown	Exterior wall cover, eave	4	5	0	0	6,450
		Structural materials-Unknown	6	8	0	0	9,204
		Material first ignited-Unknown	4	5	0	0	13,386
	Suspected arson	Exterior wall cover, eave	6	8	0	0	302,320
		Other	3	4	0	0	235,631
	Other	Other	29	36	0	0	493,777
Exposure from unclassified source	Mech., Elect. Failure-Unknown	Exterior wall cover, eave	2	3	0	0	35,024
	Other	Other	6	8	0	0	137,500
Other	Other	Other	20	25	0	1	623,428
Total			80	100	0	1	1,856,720

Commentary: Exterior walls, being a significant part of structural areas of fire origin, were analyzed separately. Approximately 77% of exterior walls ignited from exposure fires.

Home Fires by Major Ignition Scenarios - 1998

Area of Fire Origin=Heating equipment room			No. Of Fires	% Of Fires	Deaths	Injuries	$ Losses
Source of Ignition	Act or Omission	Material First Ignited					
Central heating unit, furnace/ boiler	Combustible placed too close to heat	Clothing/ flam.-comb. liquid/paper	4	8	0	1	11,002
	Part failure, leak, break	Natural gas	3	5	0	0	1,650
		Other	4	6	0	0	258,816
	Other	Other	9	14	0	1	131,293
Service water heater	Combustible placed too close to heat	Clothing/ flam.-comb. liquid/ cardboard	4	8	0	3	377,785
	Ignorance of hazard	Clothing/ flam.-comb. liquid	4	8	0	1	4,552
	Other	Other	4	6	0	1	21,683
Permanent electrical wiring/cable	Electrical short circuit	Electric insulation in electric equip.	4	6	0	3	126,300
		Other	1	2	0	0	300
	Other	Other	2	3	0	0	129,000
Other	Other	Other	17	26	0	6	468,519
Unknown/ unclassified	Other	Other	9	14	0	3	819,111
Total			65	100	0	19	2,350,011

Commentary: Furnaces (33%) and water heaters (22%) were the two major sources of ignition in heating equipment room ignition scenarios. When known, most of these fires were the result of either combustibles placed too close or a part failure, leak or break.

Home Fires by Major Ignition Scenarios - 1998

Area of Fire Origin=Court/ patio/terrace			No. Of Fires	% Of Fires	Deaths	Injuries	$ Losses
Source of Ignition	Act or Omission	Material First Ignited					
Smoker's material	Smoker's material	Agricultural/-forestry products-Unclass.	10	17	0	0	14,011
		Other	9	15	0	0	31,129
	Other	Other	1	2	0	0	400
Open fired broiler, portable (barbecue)	Part failure, leak, break	Exterior wall cover, eave	3	5	0	0	36,093
		Propane/butan-e/liquefied petroleum gases	3	5	0	0	900
		Other	1	2	0	0	400
	Other	Other	4	7	0	2	48,986
Match/lighter (not with smoking)	Child playing with	Exterior wall/ fibre products etc.	3	6	0	0	5,159
	Suspected arson	Furniture (upholstered)	1	2	0	0	1,000
	Vandalism, mischief, no charges laid	Flammable/com-bustible liquid-Unclassif.	1	2	0	0	1
	Manual control failure	Wood/wooden items/plywood	1	2	0	0	250
Hot ashes/embers (not from smoking)	Inadequate control of 'open' fire or Ignorance of hazard	Grass, brush, leaves/ext. trim	4	7	1	0	12,200
	Improper container	Cardboard, cardboard items	1	2	0	0	4,998
Other	Other	Other	11	18	0	0	989,915
Unknown/ unclassified	Other	Other	7	12	0	0	25,679
Total			60	100	1	2	1,171,121

Commentary: The two most common ignition scenarios in the court/patio/terrace area involved misuse of smoker's material igniting agricultural/forestry products (17%) and open fired broilers igniting the exterior wall, eaves, propane or other liquefied petroleum gases (10%) due to a part failure, leak or break.

Major Causes of Home Fires in Alberta – 1998

Fire Causes	Fires	% Of Fires	Deaths	% Of Deaths	Injuries	% Of Injuries	$ Losses	% Of $ Losses
Other Cooking	241	15	5	45	29	11	4,404,200	10
Smoking	192	12	3	27	27	10	6,013,777	13
Arson/Set Fire	165	10	0	0	29	11	4,853,800	11
Overheated Cooking Oil Fire	165	10	1	9	50	19	2,186,113	5
Heating Eqpt. Related	144	9	0	0	27	10	4,103,563	9
Electrical Distrib. Eqpt.	109	7	0	0	16	6	3,489,577	8
Child Fireplay	87	5	0	0	21	8	2,681,091	6
Candle (accident)	78	5	0	0	25	9	1,778,101	4
Clothes Dryer	55	3	0	0	2	1	1,014,140	2
Exposure Fire	52	3	0	0	0	0	1,029,193	2
Appliance/Equip-ment Related	52	3	0	0	3	1	1,764,845	4
Other Causes/Unknown	252	16	2	18	37	14	11,898,248	26
Total	1,592	100	11	100	266	100	45,216,648	100

Commentary: The major known causes of home fires in 1998 were other cooking (15%) (fires other than overheated cooking oil fires), smoking (12%), arson/set fires (10%), and overheated cooking oil (10%). Other cooking (45%) was the number one cause of fire deaths and overheated cooking oil (19%) was the number one cause of fire injuries in Alberta homes in 1998.

Major Causes of Home Fires In Alberta 1989 - 1998

Fire Causes	Fires	% Of Fires	Deaths	% Of Deaths	Injuries	% Of Injuries	$ Losses	% Of $ Losses
Overheated Cooking Oil Fire	2,605	14	9	4	481	18	26,176,063	6
Other Cooking	2,533	14	25	10	293	11	29,922,298	7
Smoking	2,057	11	79	32	516	19	44,286,908	10
Heating Eqpt. Related	1,910	10	23	9	245	9	49,938,285	12
Arson/Set Fire	1,667	9	15	6	177	7	44,861,380	11
Child Fireplay	1,262	7	17	7	316	12	27,662,860	7
Electrical Distrib. Eqpt.	1,038	6	6	2	87	3	40,963,767	10
Exposure Fire	672	4	0	0	12	0	11,040,398	3
Clothes Dryer	665	4	0	0	27	1	4,523,147	1
Appliance/Equip-ment Related	595	3	3	1	37	1	13,543,468	3
Candle (accident)	538	3	8	3	134	5	7,839,810	2
Other Causes/Unknown	2,932	16	61	25	381	14	123,464,015	29
Total	18,474	100	246	100	2706	100	424,222,399	100

Commentary: The major known causes of home fires during the 10-year period were overheated cooking oil (14%), other cooking (14%), smoking (11%) and heating equipment related (10%) fires. The largest number of fire deaths (32%) and fire injuries (19%) were caused by careless smoking.

Home Fires by Smoke Alarm Operation - 1998

Smoke Alarm Installation	Fires	% Of Fires	Deaths	% Of Deaths	Injuries	% Of Injuries	$ Losses	% Of $ Losses
Not Installed	649	41	8	73	46	17	20,307,649	45
Installed	943	59	3	27	220	83	24,735,126	55
Total	1592	100	11	100	266	100	45,042,775	100

Activation of Smoke Alarms	Fires	% Of Fires	Deaths	% Of Deaths	Injuries	% Of Injuries	$ Losses	% of $ Losses
Activated	365	39	0	0	90	41	10,529,646	43
Not activated	299	32	0	0	69	31	5,335,714	22
Unknown	279	30	3	100	61	28	8,869,766	36
Total	943	100	3	100	220	100	24,735,126	100

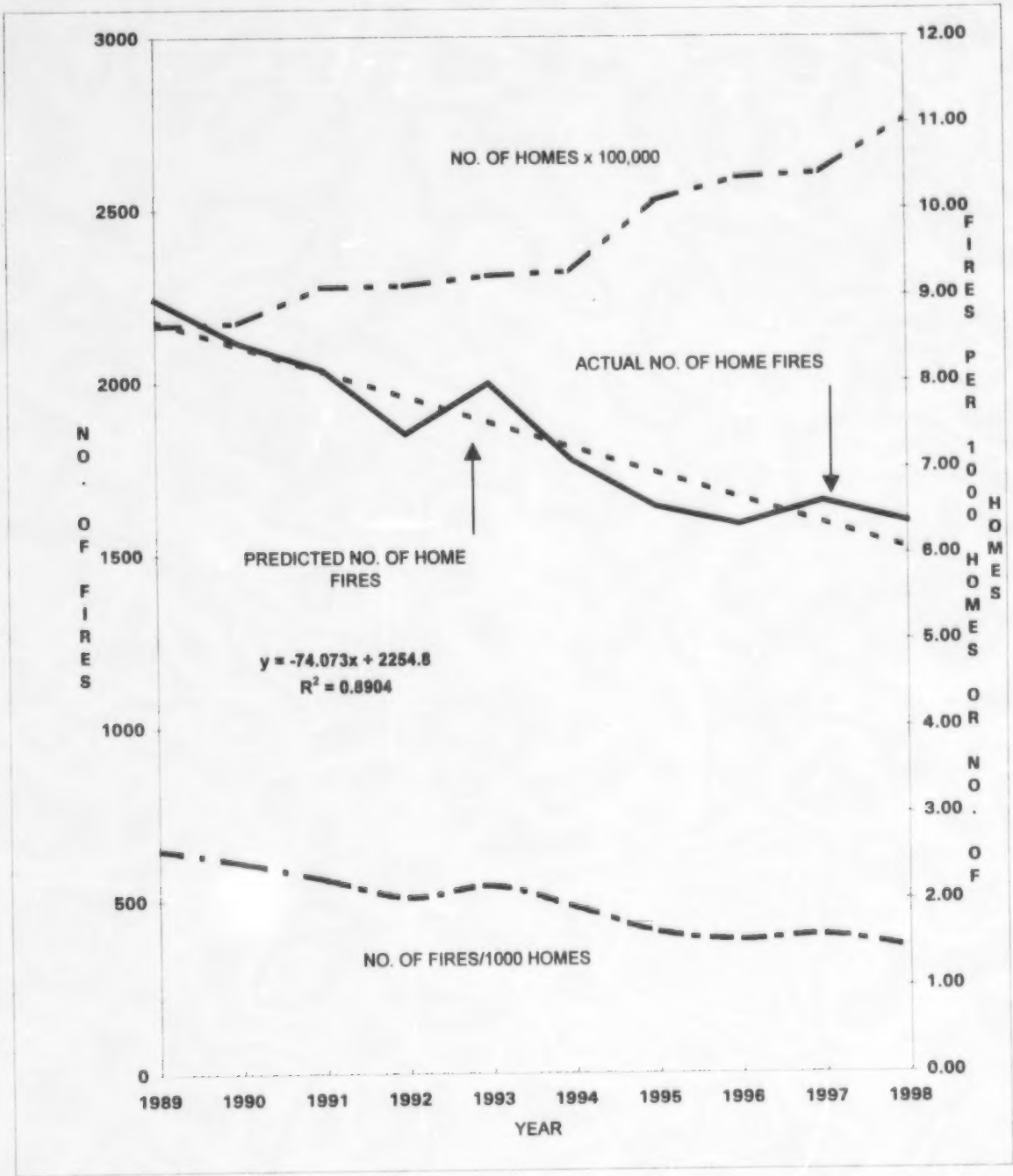
Alarm Assistance to Occupants	Fires	% Of Fires	Deaths	% Of Deaths	Injuries	% Of Injuries	$ Losses	% Of $ Losses
Assisted occupants to evacuate	236	65	0	.	58	64	7,160,952	68
Did not assist occupants	125	34	0	.	32	36	3,284,514	31
Unknown	4	1	0	.	0	0	84,180	1
Total	365	100	0	.	90	100	10,529,646	100

Reasons - Alarms Did Not Assist	Fires	% Of Fires	Deaths	% Of Deaths	Injuries	% Of Injuries	$ Losses	% Of $ Losses
Unable to respond	2	2	0	.	0	0	1,950	0
Under influence of alcohol/drugs	4	3	0	.	1	3	902	0
Unsuitable location	1	1	0	.	0	0	2,025	0
Unnecessary to evacuate	40	32	0	.	7	22	754,976	23
Other	61	49	0	.	21	66	1,983,684	60
Unknown	17	14	0	.	3	9	540,977	16
Total	125	100	0	.	32	100	3,284,514	100

Reasons - Alarms Not Activated	Fires	% Of Fires	Deaths	% Of Deaths	Injuries	% Of Injuries	$ Losses	% Of $ Losses
Unsuitable location	5	2	0	.	2	3	6,398	0
No battery	73	24	0	.	28	41	1,226,268	23
Dead battery	17	6	0	.	4	6	191,631	4
Electricity off	6	2	0	.	6	9	189,450	4
Electricity not connected	22	7	0	.	10	14	354,723	7
Mechanical failure	3	1	0	.	2	3	21,274	0
Not enough smoke	108	36	0	.	9	13	913,257	17
Other	32	11	0	.	6	9	422,640	8
Unknown	33	11	0	.	2	3	2,010,073	38
Total	299	100	0	.	69	100	5,335,714	100

Commentary: In 1998, 41% of homes where fire occurred did not have smoke alarms installed. Lack of a power source was the major reason for no alarm activation (39%).

Trends in Alberta Home Fires, 1989 – 1998



Commentary: The actual number of home fires and the number of fires per 1,000 homes have declined in spite of an increase in the number of homes in Alberta between 1989 and 1998. A linear regression equation (y=mx+c), where the slope=-74 and intercept, c=2,255 predicts 1,441 as the number of fires (y) likely to occur in 1999.

SECTION 4

Municipal Fire Loss Statistics

Fire Commissioner's Statistical Report

1 9 9 8

Municipal Fire Loss Statistics for the Year Ending December 31, 1998 and for the 10 - Year Period 1989 - 1998

Municipality		1998 Population	1998 Fire Count	1998 $-Losses	1998 Fire Rate	1998 Per Capita $-Loss	10 Yr. Total Fire Count	10 Yr. Total $ Losses	10 Yr Average Fire Rate	10 Yr Average Per Capita $-Loss
County 1	Grande Prairie Cty #1	13,750	84	4,001,933	6.1	291.05	934	19,999,004	6.8	145.45
	Beaverlodge	1,997	5	418,851	2.5	209.74	42	829,385	2.1	41.53
	Hythe	712	.	.	.	.	10	66,761	1.4	9.38
	Sexsmith	1,578	1	5,000	0.6	3.17	51	702,404	3.2	44.51
	Wembley	1,523	4	52,851	2.6	34.70	38	223,263	2.5	14.66
County 2	Vulcan Cty #2	3,829	10	303,843	2.6	79.35	133	2,583,737	3.5	66.98
	Vulcan	1,537	1	1,000	0.7	0.65	17	189,859	1.1	12.35
	Arrowwood	163	.	.	.	.	1	2,528	0.6	1.55
	Carmangay	258	.	.	.	.	3	4,001	1.2	1.55
	Champion	362	.	.	.	.	8	109,638	2.2	30.29
	Lomond	170	.	.	.	.	2	23,173	1.2	13.63
	Milo	121	.	.	.	.	.	.	.	.
County 3	Ponoka Cty #3	8,313	19	176,305	2.3	21.21	318	5,758,741	3.8	69.27
	Ponoka	6,149	11	129,932	1.8	21.13	97	1,261,008	1.6	20.51
	Rimbey	2,106	5	123,275	2.4	58.54	45	1,125,616	2.1	53.45
	Parkland Beach S.V.	97	.	.	.	.	2	65,450	2.1	67.47
County 4	Newell Cty #4	6,421	28	347,542	4.4	54.13	304	6,261,126	4.7	97.51
	Brooks	10,093	24	591,736	2.4	58.63	191	6,131,580	1.9	60.75
	Bassano	1,272	.	.	.	.	12	198,198	0.9	15.58
	Duchess	693	.	.	.	.	7	65,433	1.0	9.44
	Rosemary	332	.	.	.	.	1	889	0.3	0.27
	Tilley	368	.	.	.	.	4	163,787	1.1	44.51
County 5	Warner Cty #5	3,561	8	65,300	2.2	18.34	123	2,233,954	3.5	62.73
	Warner	420	.	.	.	.	4	49,108	1.0	11.69
	Milk River	929	1	5,560	1.1	5.98	6	674,408	0.6	72.60
	Raymond	3,056	9	385,904	2.9	126.28	46	1,507,206	1.5	49.32
	Coutts	388	1	6,500	2.6	16.84	4	52,618	1.0	13.63
	Stirling	874	2	8,000	2.3	8.66	14	276,642	1.6	31.65
County 6	Stettler Cty #6	5,278	30	427,177	5.7	80.94	202	2,789,691	3.8	52.86
	Stettler	5,220	10	69,306	1.9	13.28	80	1,674,101	1.5	32.07
	Big Valley	308	1	15,000	3.2	48.70	10	101,463	3.2	32.94
	Botha	194	.	.	.	.	3	70,690	1.5	36.44
	Donalda	241	.	.	.	.	1	40,250	0.4	16.70
	Gadsby	40	.	.	.	.	4	80,152	10.0	200.38

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Municipal Fire Loss Statistics for the Year Ending December 31, 1998 and for the 10 - Year Period 1989 - 1998

Municipality		1998 Population	1998 Fire Count	1998 $-Losses	1998 Fire Rate	1998 Per Capita $-Loss	10 Yr. Total Fire Count	10 Yr. Total $ Losses	10 Yr Average Fire Rate	10 Yr Average Per Capita $-Loss
County 6	Rochon Sands S.V.	86	.	.	.	.	3	58,715	3.5	68.27
	White Sands S.V.	49	.	.	.	.	.	.	.	.
County 7	Thorhild Cty #7	3,077	14	794,474	4.5	258.20	210	3,753,005	6.8	121.97
	Thorhild	486	.	.	.	.	11	470,850	2.3	96.88
County 8	Forty Mile Cty #8	3,230	17	371,627	5.3	115.05	179	2,935,262	5.5	90.87
	Foremost	556	.	.	.	.	3	107,636	0.5	19.36
	Bow Island	1,688	4	10,500	2.4	6.22	37	2,722,305	2.2	161.27
	Burdett	286	.	.	.	.	7	25,948	2.4	9.07
County 9	Beaver Cty #9	5,659	22	445,299	3.9	78.69	278	10,460,855	4.9	184.85
	Ryley	465	2	18,114	4.3	38.95	14	135,000	3.0	29.03
	Tofield	1,726	3	36,000	1.7	20.86	29	740,169	1.7	42.88
	Viking	1,081	2	67,671	1.9	62.60	19	646,769	1.8	59.83
	Holden	397	.	.	.	.	7	1,342,312	1.8	338.11
County 10	Wetaskiwin Cty #10	10,467	37	670,772	3.5	64.08	325	9,314,739	3.1	88.99
	Crystal Springs S.V.	55	.	.	.	.	.	.	.	.
	Ma-Me-O Beach S.V.	73	3	82,360	41.1	1128.22	11	375,812	15.1	514.81
	Millet	1,894	11	70,217	5.8	37.07	32	1,186,166	1.7	62.63
	Silver Beach S.V.	47	.	.	.	.	.	.	.	.
	Grandview S.V.	61	.	.	.	.	.	.	.	.
	Argentia Beach S.V.	4	.	.	.	.	1	80,000	25.0	2000.00
	Poplar Bay S.V.	66	.	.	.	.	.	.	.	.
	Norris Beach S.V.	23	.	.	.	.	1	12,000	4.3	52.17
County 11	Barrhead Cty #11	5,870	15	906,266	2.6	154.39	197	6,191,394	3.4	105.48
	Barrhead	4,239	6	73,738	1.4	17.40	53	1,331,606	1.3	31.41
County 12	Athabasca Cty #12	7,415	13	543,955	1.8	73.36	205	7,573,124	2.8	102.13
	Athabasca	2,313	6	107,001	2.6	46.26	44	1,324,850	1.9	57.28
	Boyle	802	.	.	.	.	12	247,054	1.5	30.80
	Island Lake S.V.	201	.	.	.	.	4	109,343	2.0	54.40
	Sunset Beach S.V.	33	.	.	.	.	1	4,500	3.0	13.64
	Mewatha Beach S.V.	83	.	.	.	.	3	3,649	3.6	4.40
	South Baptiste S.V.	66	.	.	.	.	8	250,458	12.1	379.48
	Bondiss S.V.	86	.	.	.	.	1	9,416	1.2	10.95
	Island Lake South S.V.	71	.	.	.	.	2	86,320	2.8	121.58

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Municipal Fire Loss Statistics for the Year Ending December 31, 1998 and for the 10 - Year Period 1989 - 1998

Municipality		1998 Population	1998 Fire Count	1998 $-Losses	1998 Fire Rate	1998 Per Capita $-Loss	10 Yr. Total Fire Count	10 Yr. Total $ Losses	10 Yr Average Fire Rate	10 Yr Average Per Capita $-Loss
County 12	White Gull S.V.	24	.	.	.	.	4	6,002	16.7	25.01
	West Baptiste S.V.	36	.	.	.	.	1	81,116	2.8	225.32
	Whispering Hills S.V.	79	.	.	.	.	.	.	.	.
County 13	Smoky Lake Cty #13	2,782	10	722,353	3.6	259.65	136	2,832,260	4.9	101.81
	Smoky Lake	1,087	.	.	.	.	17	238,925	1.6	21.98
	Vilna	302	1	60,450	3.3	200.17	6	88,606	2.0	29.34
	Warspite	75	.	.	.	.	2	19,500	2.7	26.00
	Waskatenau	237	.	.	.	.	5	37,822	2.1	15.96
	Buffalo Lake Metis Settlement	809	1	62,000	1.2	76.64	3	317,400	0.4	39.23
	Kikino Metis Settlement	927	.	.	.	.	1	1,500	0.1	0.16
County 14	Lacombe Cty #14	10,081	70	2,206,084	6.9	218.83	437	7,488,851	4.3	74.29
	Lacombe	8,018	21	63,765	2.6	7.95	106	1,926,019	1.3	24.02
	Alix	775	2	41,878	2.6	54.04	11	225,425	1.4	29.09
	Bentley	987	5	9,959	5.1	10.09	21	177,701	2.1	18.00
	Blackfalds	2,001	5	87,278	2.5	43.62	37	735,945	1.8	36.78
	Clive	517	.	.	.	.	6	287,114	1.2	55.53
	Eckville	901	.	.	.	.	21	836,252	2.3	92.81
	Gull Lake S.V.	149	.	.	.	.	9	295,962	6.0	198.63
	Mirror	487	1	79,631	2.1	163.51	10	153,095	2.1	31.44
	Birchcliff S.V.	102	.	.	.	.	.	.	.	.
	Half Moon Bay S.V.	53	1	598	18.9	11.28	1	598	1.9	1.13
	Sunbreaker Cove S.V.	86	.	.	.	.	3	95,745	3.5	111.33
County 16	Wheatland Cty #16	7,049	14	531,290	2.0	75.37	285	7,653,409	4.0	108.57
	Strathmore	6,045	3	137,631	0.5	22.77	73	918,972	1.2	15.20
	Gleichen	335	.	.	.	.	15	394,494	4.5	117.76
	Hussar	157	.	.	.	.	2	4,500	1.3	2.87
	Rockyford	346	.	.	.	.	6	95,143	1.7	27.50
	Standard	366	2	8,501	5.5	23.23	8	26,773	2.2	7.32
County 17	Mountain View Cty #17	11,277	112	2,062,220	9.9	182.87	653	14,963,895	5.8	132.69
	Didsbury	3,553	6	134,539	1.7	37.87	61	982,234	1.7	27.65
	Olds	5,815	30	324,953	5.2	55.88	124	2,859,070	2.1	49.17
	Sundre	2,028	11	44,592	5.4	21.99	49	619,510	2.4	30.55

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Municipal Fire Loss Statistics for the Year Ending December 31, 1998 and for the 10 - Year Period 1989 - 1998

Municipality		1998 Population	1998 Fire Count	1998 $-Losses	1998 Fire Rate	1998 Per Capita $-Loss	10 Yr. Total Fire Count	10 Yr. Total $ Losses	10 Yr Average Fire Rate	10 Yr Average Per Capita $-Loss
County 17	Carstairs	1,887	2	1,001	1.1	0.53	21	159,967	1.1	8.48
	Cremona	380	.	.	.	.	5	18,065	1.3	4.75
County 18	Paintearth Cty #18	2,316	22	392,027	9.5	169.27	117	2,182,166	5.1	94.22
	Castor	970	.	.	.	.	10	191,435	1.0	19.74
	Coronation	1,166	1	126,671	0.9	108.64	27	688,855	2.3	59.08
	Halkirk	131	.	.	.	.	16	23,903	12.2	18.25
County 19	St. Paul Cty #19	6,335	33	1,258,757	5.2	198.70	295	6,125,548	4.7	96.69
	St. Paul	4,970	8	24,140	1.6	4.86	96	1,255,724	1.9	25.27
	Elk Point	1,492	2	152,321	1.3	102.09	18	619,567	1.2	41.53
	Horseshoe Bay S.V.	39	2	8,501	51.3	217.97	3	31,501	7.7	80.77
County 21	Two Hills Cty #21	2,753	10	161,069	3.6	58.51	172	2,108,669	6.2	76.60
	Two Hills	1,040	.	.	.	.	13	849,804	1.3	81.71
	Derwent	110	.	.	.	.	1	20,629	0.9	18.75
	Myrnam	294	.	.	.	.	2	496,000	0.7	168.71
	Willingdon	309	.	.	.	.	6	46,065	1.9	14.91
County 22	Camrose Cty #22	7,613	38	435,190	5.0	57.16	385	5,721,691	5.1	75.16
	Bashaw	775	2	43,773	2.6	56.48	10	100,815	1.3	13.01
	Bawlf	351	.	.	.	.	2	32,200	0.6	9.17
	Bittern Lake	193	.	.	.	.	1	2,000	0.5	1.04
	Edberg	137	.	.	.	.	2	198,750	1.5	145.07
	Ferintosh	130	.	.	.	.	2	133,000	1.5	102.31
	Hay Lakes	352	.	.	.	.	4	103,765	1.1	29.48
	New Norway	270	2	4,126	7.4	15.28	4	5,636	1.5	2.09
	Rosalind	195	.	.	.	.	.	.	.	.
County 23	Red Deer Cty #23	17,126	76	1,733,997	4.4	101.25	610	10,758,724	3.6	62.82
	Innisfail	6,116	9	247,518	1.5	40.47	72	693,756	1.2	11.34
	Sylvan Lake	5,178	6	33,793	1.2	6.53	67	1,461,208	1.3	28.22
	Bowden	1,014	1	75,000	1.0	73.96	19	147,692	1.9	14.57
	Delburne	641	2	2,000	3.1	3.12	10	619,109	1.6	96.58
	Elnora	255	1	37,925	3.9	148.73	4	102,925	1.6	40.36
	Penhold	1,625	3	9,301	1.8	5.72	31	240,640	1.9	14.81
	Norglewold S.V.	281	.	.	.	.	1	1,500	0.4	0.53
	Jarvis Bay S.V.	83	.	.	.	.	.	.	.	.

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Municipal Fire Loss Statistics for the Year Ending December 31, 1998 and for the 10 - Year Period 1989 - 1998

Municipality		1998 Population	1998 Fire Count	1998 $-Losses	1998 Fire Rate	1998 Per Capita $-Loss	10 Yr. Total Fire Count	10 Yr. Total $ Losses	10 Yr Average Fire Rate	10 Yr Average Per Capita $-Loss
County 24	Vermilion Rv. Cty #24	7,553	44	900,077	5.8	119.17	407	9,371,262	5.4	124.07
	Kitscoty	672	.	.	.	.	9	67,909	1.3	10.11
	Vermilion	4,303	10	243,378	2.3	56.56	89	819,598	1.6	19.05
	Dewberry	185	.	.	.	.	2	3,600	1.1	1.95
	Marwayne	449	1	10,000	2.2	22.27	8	393,583	1.8	87.66
	Paradise Valley	141	.	.	.	.	3	1,354,800	2.1	960.85
County 25	Leduc Cty #25	12,361	53	539,520	4.3	43.65	645	12,646,568	5.2	102.31
	Calmar	1,797	6	756,502	3.3	420.98	41	1,127,006	2.3	62.72
	Devon	4,496	15	743,617	3.3	165.40	109	1,051,286	2.4	23.38
	New Sarepta	359	1	148,000	2.8	412.26	17	638,792	4.7	177.94
	Thorsby	725	2	314,458	2.8	433.74	12	464,175	1.7	64.02
	Warburg	549	.	.	.	.	6	110,078	1.1	20.05
	Itaska Beach S.V.	4	.	.	.	.	.	.	.	.
	Golden Days S.V.	92	.	.	.	.	.	.	.	.
	Sundance Beach S.V.	35	.	.	.	.	.	.	.	.
	Beaumont	6,295	5	240,500	0.8	38.20	55	1,160,334	0.9	18.43
County 26	Lethbridge Cty #26	9,290	66	2,335,030	7.1	251.35	458	10,810,215	4.9	116.36
	Coaldale	5,731	12	200,652	2.1	35.01	75	1,085,291	1.3	18.94
	Picture Butte	1,669	2	20,500	1.2	12.28	32	1,725,722	1.9	103.40
	Barons	285	.	.	.	.	9	290,523	3.2	101.94
	Nobleford	559	.	.	.	.	2	272,515	0.4	48.84
	Coalhurst	1,465	4	26,301	2.7	17.95	32	232,497	2.2	15.87
County 27	Minburn Cty #27	3,405	14	328,334	4.1	96.43	211	2,324,880	6.2	68.28
	Minburn	95	.	.	.	.	3	38,450	3.2	40.47
	Mannville	758	1	20,000	1.3	26.39	13	440,269	1.7	58.08
	Vegreville	5,337	8	320,861	1.5	60.12	89	2,051,468	1.7	38.44
	Innisfree	238	.	.	.	.	9	54,488	3.8	22.89
	Lavoy	119	.	.	.	.	1	35,000	0.8	29.41
County 28	Lac Ste. Anne Cty #28	8,737	16	228,247	1.8	26.12	246	6,114,404	2.8	69.98
	Onoway	788	1	6,500	1.3	8.25	12	213,594	1.5	27.11
	Mayerthorpe	1,669	2	421,400	1.2	252.49	32	1,345,333	1.9	80.61
	Alberta Beach S.V.	640	1	175,073	1.6	273.55	24	1,070,428	3.8	167.25
	Castle Island S.V.	19	.	.	.	.	1	2,059	5.3	10.84

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Municipal Fire Loss Statistics for the Year Ending December 31, 1998 and for the 10 - Year Period 1989 - 1998

Municipality		1998 Population	1998 Fire Count	1998 $-Losses	1998 Fire Rate	1998 Per Capita $-Loss	10 Yr. Total Fire Count	10 Yr. Total $ Losses	10 Yr Average Fire Rate	10 Yr Average Per Capita $-Loss
County 28	Sunset Point S.V.	125	.	.	.	.	2	4,350	1.6	3.48
	Sangudo	398	.	.	.	.	8	194,395	2.0	48.84
	West Cove S.V.	85	.	.	.	.	1	800	1.2	0.94
	Yellowstone S.V.	97	1	2,100	10.3	21.65	1	2,100	1.0	2.16
	Ross Haven S.V.	108	.	.	.	.	3	233,000	2.8	215.74
	Val Quentin S.V.	123	.	.	.	.	3	6,300	2.4	5.12
	Silver Sands S.V.	105	.	.	.	.	1	15,000	1.0	14.29
	Nakamun Park S.V.	14	.	.	.	.	.	.	.	.
	South View S.V.	60	.	.	.	.	.	.	.	.
	Birch Cove S.V.	23	.	.	.	.	.	.	.	.
	Sunrise Beach S.V.	84	.	.	.	.	2	107,277	2.4	127.71
	Sandy Beach S.V.	171	1	142,000	5.8	830.41	1	142,000	0.6	83.04
County 29	Flagstaff Cty #29	4,015	30	473,017	7.5	117.81	247	3,782,281	6.2	94.20
	Sedgewick	937	.	.	.	.	7	898,737	0.7	95.92
	Alliance	220	.	.	.	.	2	20,200	0.9	9.18
	Daysland	679	.	.	.	.	10	297,771	1.5	43.85
	Hardisty	808	2	15,738	2.5	19.48	21	543,533	2.6	67.27
	Forestburg	930	3	7,600	3.2	8.17	14	823,113	1.5	88.51
	Galahad	175	.	.	.	.	5	261,949	2.9	149.69
	Heisler	195	.	.	.	.	2	12,022	1.0	6.17
	Killam	1,048	.	.	.	.	10	556,458	1.0	53.10
	Lougheed	253	2	10,501	7.9	41.51	7	124,420	2.8	49.18
	Strome	269	.	.	.	.	3	99,206	1.1	36.88
County 30	Lamont Cty #30	4,212	45	555,482	10.7	131.88	326	4,995,718	7.7	118.61
	Lamont	1,581	1	88,492	0.6	55.97	16	3,579,444	1.0	226.40
	Chipman	230	10	71,492	43.5	310.83	12	104,692	5.2	45.52
	Mundare	578	.	.	.	.	10	20,568	1.7	3.56
	Andrew	484	1	118,800	2.1	245.45	10	214,021	2.1	44.22
	Bruderheim	1,198	1	100	0.8	0.08	20	447,125	1.7	37.32
County 31	Parkland Cty #31	24,769	54	2,305,564	2.2	93.08	693	19,571,079	2.8	79.01
	Stony Plain	8,274	3	505,914	0.4	61.15	77	1,483,078	0.9	17.92
	Betula Beach S.V.	3	.	.	.	.	.	.	.	.
	Edmonton Beach S.V.	425	.	.	.	.	5	121,403	1.2	28.57
	Entwistle	453	.	.	.	.	15	128,948	3.3	28.46
	Kapasiwin S.V.	12	.	.	.	.	.	.	.	.

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Municipal Fire Loss Statistics for the Year Ending December 31, 1998 and for the 10 - Year Period 1989 - 1998

Municipality		1998 Population	1998 Fire Count	1998 $-Losses	1998 Fire Rate	1998 Per Capita $-Loss	10 Yr. Total Fire Count	10 Yr. Total $ Losses	10 Yr Average Fire Rate	10 Yr Average Per Capita $-Loss
County 31	Lakeview S.V.	15	.	.	.	.	3	17,428	20.0	116.19
	Point Alison S.V.	6	.	.	.	.	.	.	.	.
	Seba Beach S.V.	124	.	.	.	.	6	161,571	4.8	130.30
	Wabamun	645	.	.	.	.	11	259,962	1.7	40.30
Kneehill County	Kneehill County	5,064	44	308,939	8.7	61.01	44	308,939	0.9	6.10
	Three Hills	3,387	9	3,223	2.7	0.96	9	3,223	0.3	0.10
	Acme	600	.	.	.	.	.	.	.	.
	Trochu	958	1	50	1.0	0.05	1	50	0.1	0.01
	Carbon	450	.	.	.	.	.	.	.	.
	Linden	590	2	3,951	3.4	6.70	2	3,951	0.3	0.67
County 90	Sturgeon Cty #90	15,945	57	707,176	3.6	44.35	57	707,176	0.4	4.44
	Morinville	6,226	13	47,081	2.1	7.56	13	47,081	0.2	0.76
	Gibbons	2,748	1	200	0.4	0.07	1	200	0.0	0.01
	Bon Accord	1,493	1	1,500	0.7	1.00	1	1,500	0.1	0.10
	Legal	1,095	2	4,300	1.8	3.93	2	4,300	0.2	0.39
	Redwater	2,053	3	102,081	1.5	49.72	3	102,081	0.1	4.97
Sp. Municip. of Wood Buffalo	Wood Buffalo Specialized Municipality	2,135	29	10,205,617	13.6	4780.15	90	23,057,993	4.2	1080.00
	Fort McMurray	33,078	54	989,298	1.6	29.91	310	3,287,305	0.9	9.94
Sp. Municip. of Strathc. County	Strathcona County	22,888	73	1,289,732	3.2	56.35	218	6,941,485	1.0	30.33
	Sherwood Park	42,452	39	588,225	0.9	13.86	155	1,488,108	0.4	3.51
Town of Drumheller	Town of Drumheller	7,833	14	228,244	1.8	29.14	14	228,244	0.2	2.91
M.D. 6	Cardston M.D. #6	4,565	19	322,874	4.2	70.73	187	2,161,156	4.1	47.34
	Cardston	3,417	2	12,162	0.6	3.56	35	418,982	1.0	12.26
	Magrath	1,867	3	830	1.6	0.44	39	1,087,728	2.1	58.26
	Glenwood	295	.	.	.	.	5	17,673	1.7	5.99
	Hillspring	206	.	.	.	.	3	17,601	1.5	8.54
M.D. 9	Pincher Creek M.D. #9	3,172	8	431,464	2.5	136.02	210	3,653,519	6.6	115.18
	Pincher Creek	3,659	3	4,910	0.8	1.34	82	2,239,159	2.2	61.20
	Cowley	273	2	193,915	7.3	710.31	16	639,166	5.9	234.13
M.D. 14	Taber M.D. #14	5,971	29	331,933	4.9	55.59	278	6,497,634	4.7	108.82
	Taber	7,214	5	324,880	0.7	45.03	96	2,846,543	1.3	39.46
	Vauxhall	1,011	3	29,835	3.0	29.51	17	383,019	1.7	37.89
	Barnwell	552	.	.	.	.	6	12,135	1.1	2.20

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M.D. 26	Willow Creek M.D. #26	5,091	15	165,367	2.9	32.48	330	6,730,748	6.5	132.21
	Stavely	513	1	108,219	1.9	210.95	8	227,329	1.6	44.31
	Nanton	1,665	2	3,100	1.2	1.86	36	201,667	2.2	12.11
	Claresholm	3,427	5	61,389	1.5	17.91	76	1,318,579	2.2	38.48
	Ft. Macleod	3,034	10	29,102	3.3	9.59	46	1,572,214	1.5	51.82
	Granum	337	.	.	.	.	9	30,542	2.7	9.06
M.D. 31	Foothills M.D. #31	14,349	50	1,323,962	3.5	92.27	483	8,742,711	3.4	60.93
	High River	7,359	17	274,616	2.3	37.32	78	6,718,447	1.1	91.30
	Black Diamond	1,911	1	788	0.6	0.42	36	343,236	2.0	18.95
	Okotoks	8,510	19	108,469	2.2	12.75	149	1,259,561	1.8	14.80
	Turner Valley	1,575	1	8,364	0.6	5.31	32	353,272	2.0	22.43
	Longview	303	.	.	.	.	2	11,530	0.7	3.81
M.D. 34	Acadia M.D. #34	533	3	25,501	5.6	47.84	24	309,447	4.5	58.06
M.D. 44	Rocky View M.D. #44	23,326	110	3,739,061	4.7	160.30	1005	21,499,607	4.3	92.17
	Beiseker	708	1	530	1.4	0.75	9	531,694	1.3	75.10
	Cochrane	7,424	20	55,577	2.7	7.49	159	850,889	2.1	11.46
	Crossfield	2,003	4	201,000	2.0	100.35	14	2,442,091	0.7	121.92
	Irricana	890	2	80,530	2.2	90.48	14	277,032	1.6	31.13
	Chestermere	1,911	2	1,100	1.0	0.58	18	156,147	0.9	8.17
M.D. 47	Starland M.D. #47	2,075	1	7,000	0.5	3.37	98	1,175,060	4.7	56.63
	Morrin	275	.	.	.	.	7	206,707	2.5	75.17
	Delia	208	.	.	.	.	4	210,751	1.9	101.32
	Munson	204	.	.	.	.	3	120,258	1.5	58.95
M.D. 52	Provost M.D. #52	2,705	20	225,242	7.4	83.27	169	3,682,360	6.2	136.13
	Provost	2,045	4	662,500	2.0	323.96	21	1,860,313	1.0	90.97
	Amisk	214	1	12,750	4.7	59.58	7	32,861	3.3	15.36
	Czar	199	1	34,000	5.0	170.85	5	143,009	2.5	71.86
	Hughenden	302	.	.	.	.	3	57,710	1.0	19.11
M.D. 61	Wainwright M.D. #61	4,044	29	948,302	7.2	234.50	238	5,270,227	5.9	130.32
	Wainwright	5,219	11	557,207	2.1	106.77	93	3,541,845	1.8	67.86
	Irma	472	1	34,191	2.1	72.44	12	792,641	2.5	167.93
	Chauvin	400	1	154,500	2.5	386.25	10	205,741	2.5	51.44
	Edgerton	372	.	.	.	.	4	62,418	1.1	16.78

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M.D. 87	Bonnyville M.D. #87	8,069	56	1,305,965	6.9	161.85	400	7,896,713	5.0	97.86
	Bonnyville	5,397	6	485,379	1.1	89.93	120	3,459,339	2.2	64.10
	Cold Lake	11,790	9	123,328	0.8	10.46	70	761,470	0.6	6.46
	Bonnyville Beach S.V.	64	.	.	.	.	1	2,000	1.6	3.13
	Glendon	418	.	.	.	.	2	93,378	0.5	22.34
	Pelican Narrows S.V.	106	.	.	.	.	.	.	.	.
	Elizabeth Metis Settlement	622	.	.	.	.	1	13,000	0.2	2.09
	Fishing Lake Metis Settlement	499	2	30,100	4.0	60.32	4	47,600	0.8	9.54
	Lac La Biche	2,611	18	54,501	6.9	20.87	47	221,268	1.8	8.47
	Plamondon	302	1	10,800	3.3	35.76	4	62,466	1.3	20.68
M.D. 92	Westlock M.D. #92	6,958	23	299,919	3.3	43.10	305	6,806,710	4.4	97.83
	Westlock	4,817	6	281,191	1.2	54.22	77	1,393,133	1.6	28.92
	Clyde	410	1	51,125	2.4	124.70	6	409,462	1.5	99.87
	Larkspur S.V.	11	.	.	.	.	.	.	.	.
M.D. 130	Smoky River M.D. #130	2,491	21	374,359	8.4	150.28	237	4,438,216	9.5	178.17
	Falher	1,149	2	3,162	1.7	2.75	59	2,220,596	5.1	193.26
	Girouxville	332	.	.	.	.	11	323,832	3.3	97.54
	McLennan	957	5	372,294	5.2	389.02	33	1,025,151	3.4	107.12
	Donnelly	403	1	9,659	2.5	23.97	11	622,039	2.7	154.35
M.D. 133	Spirit River M.D. #133	809	8	61,850	9.9	76.45	120	3,065,418	14.8	378.91
	Spirit River	1,112	.	.	.	.	25	636,437	2.2	57.23
	Rycroft	667	.	.	.	.	19	1,189,067	2.8	178.27
M.D. 135	Peace River M.D. #135	1,562	22	241,939	14.1	154.89	133	1,716,889	8.5	109.92
	Berwyn	606	.	.	.	.	11	408,207	1.8	67.36
	Grimshaw	2,661	2	67,720	0.8	25.45	50	1,191,262	1.9	44.77
M.D. 136	Fairview M.D. #136	1,829	16	977,530	8.7	534.46	239	4,790,043	13.1	261.89
	Fairview	3,316	10	434,791	3.0	131.12	155	5,042,092	4.7	152.05
M.D. 99	Clearwater M.D. #99	10,915	26	662,251	2.4	60.67	313	10,280,417	2.9	94.19
	Rocky Mountain House	5,805	16	166,760	2.8	28.73	130	7,066,178	2.2	121.73
	Caroline	472	1	161,400	2.1	341.95	4	258,718	0.8	54.81
	Burnstick Lake S.V.	7	.	.	.	.	.	.	.	.

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M.D. 1	Cypress M.D. #1	5,683	17	510,978	3.0	89.91	349	8,631,437	6.1	155.40
	Redcliff	4,104	7	43,551	1.7	10.61	134	1,167,629	3.3	28.45
M.D. 8	Bighorn M.D. #8	1,269	10	36,361	7.9	28.65	77	1,727,958	6.1	136.17
	Ghost Lake S.V.	63	.	.	.	.	2	10,717	3.2	17.01
	Canmore	9,711	6	69,956	0.6	7.20	105	5,782,631	1.1	59.55
	Waiparous S.V.	47	.	.	.	.	.	.	.	.
M.D. 77	Brazeau M.D. #77	6,589	15	367,101	2.3	55.71	225	8,315,440	3.4	126.20
	Drayton Valley	5,883	21	96,489	3.6	16.40	119	2,378,569	2.0	40.43
	Breton	521	5	13,580	9.6	26.07	17	464,080	3.3	89.07
M.D. 94	Yellowhead M.D. #94	10,092	41	1,322,307	4.1	131.03	395	14,413,697	3.9	142.82
	Evansburg	740	2	6,100	2.7	8.24	12	90,061	1.6	12.17
	Edson	7,399	6	223,917	0.8	30.26	97	1,468,358	1.3	19.85
	Hinton	9,961	14	1,386,317	1.4	139.17	137	4,872,873	1.4	48.92
M.D. 131	East Peace M.D. #131	2,552	12	473,091	4.7	185.38	57	1,579,434	2.2	61.89
	Peace River	6,536	20	1,260,924	3.1	192.92	68	1,821,074	1.0	27.86
	Nampa	427	2	39,019	4.7	91.38	3	47,519	0.7	11.13
M.D. 16	Greenview M.D. #16	5,433	26	2,683,086	4.8	493.85	111	6,106,065	2.0	112.39
	Valleyview	1,906	6	277,846	3.1	145.77	23	799,560	1.2	41.95
	Fox Creek	2,321	2	2,000	0.9	0.86	13	268,190	0.6	11.55
	Grand Cache	4,441	2	237,728	0.5	53.53	13	711,266	0.3	16.02
M.D. 15	Woodlands M.D. #15	3,699	17	732,925	4.6	198.14	70	2,942,011	1.9	79.54
	Whitecourt	7,783	7	1,351,682	0.9	173.67	40	2,180,804	0.5	28.02
M.D. 125	Big Lakes M.D. #125	4,479	16	935,751	3.6	208.92	60	2,703,210	1.3	60.35
	High Prairie	2,907	4	2,538,176	1.4	873.13	22	3,421,924	0.8	117.71
	Swan Hills	2,030	.	.	.	.	21	252,332	1.0	12.43
	Kinuso	258	.	.	.	.	6	345,860	2.3	134.05
	East Prairie Metis Settlement	401	.	.	.	.	.	.	.	.
	Gift Lake Metis Settlement	771	.	.	.	.	2	40,561	0.3	5.26
	Peavine Metis Settlement	566	.	.	.	.	1	40,000	0.2	7.07
M.D. 19	Birch Hills M.D. #19	1,515	18	490,255	11.9	323.60	40	1,482,500	2.6	97.85
	Wanham	167	.	.	.	.	9	440,224	5.4	263.31
M.D. 20	Saddle Hills M.D. #20	2,724	14	635,212	5.1	233.19	46	2,689,378	1.7	98.73
M.D. 21	Clear Hills M.D. # 21	2,886	14	919,458	4.9	318.59	68	2,029,185	2.4	70.31
	Hines Creek	437	.	.	.	.	20	1,485,456	4.6	339.92

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M.D. 23	Mackenzie M.D. #23	12,789	27	753,441	3.4	94.42	322	9,838,197	2.8	166.09
	High Level	3,093	17	508,116	5.5	164.28	56	3,402,922	1.8	110.02
	Rainbow Lake	1,138	5	244,256	4.4	214.64	14	622,063	1.2	54.66
M.D. 66	Ranchland M.D. #66	108	.	.	.	.	4	23,598	3.7	21.85
	Crowsnest Pass	6,356	11	122,324	1.7	19.25	31	475,930	0.5	7.49
M.D. 22	Northern Lights M.D. #22	3,880	38	1,057,705	9.8	272.60	117	4,375,177	3.0	112.76
	Manning	1,295	4	171,500	3.1	132.43	20	551,633	1.5	42.60
	Paddle Prairie Metis Settlement	699	1	12,624	1.4	18.06	5	245,958	0.7	35.19
M.D. 124	Lesser Slave River M.D. #124	2,716	14	546,344	5.2	201.16	51	2,527,683	1.9	93.07
	Slave Lake	6,553	2	56,860	0.3	8.68	19	1,134,992	0.3	17.32
M.D. 17	Opportunity M.D. #17	3,189	15	1,108,350	4.7	347.55	48	3,115,062	1.5	97.68
I.D. 4	I.D. #4	279	.	.	.	.	3	229,096	1.1	82.11
I.D. 5	I.D. #5	665	4	99,197	6.0	149.17	82	373,680	12.3	56.19
I.D. 9	I.D. #9	1,305	1	10,500	0.8	8.05	35	4,661,137	2.7	357.18
	Banff	6,098	2	3,652	0.3	0.60	54	1,638,695	0.9	26.87
I.D. 12	I.D. #12	77	1	1,300	13.0	16.88	25	714,139	32.5	927.45
	Jasper	4,691	8	119,965	1.7	25.57	62	3,595,926	1.3	76.66
I.D. 13	I.D. #13	10	.	.	.	.	2	2,754	20.0	27.54
I.D. 24	I.D. #24	370	.	.	.	.	2	15,000	0.5	4.05
I.D. 25	Willmore Wilderness I.D. #25	0	.	.	.	.	.	.	.	.
Indian Reserves	Indian Reserves	50,472	99	4,069,894	2.0	80.64	952	27,024,385	1.9	53.54
S.A. 2	S.A. #2	2,532	7	49,907	2.8	19.72	115	1,800,702	4.5	71.15
	Hanna	3,001	2	43,250	0.7	14.41	38	1,661,583	1.3	55.37
	Empress	186	.	.	.	.	.	.	.	.
S.A. 3	S.A. #3	1,584	6	58,865	3.8	37.16	73	827,836	4.6	52.26
	Cereal	198	.	.	.	.	2	63,211	1.0	31.92
	Oyen	1,061	2	57,631	1.9	54.32	16	846,755	1.5	79.81
	Youngstown	239	.	.	.	.	8	35,674	3.3	14.93
S.A. 4	S.A. #4	1,641	9	263,062	5.5	160.31	100	3,943,196	6.1	240.29
	Veteran	317	.	.	.	.	7	66,196	2.2	20.88
	Consort	794	1	5,300	1.3	6.68	11	169,966	1.4	21.41

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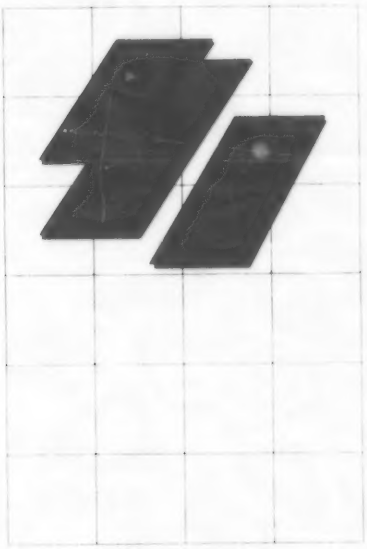
Cities	Calgary City	819,334	1657	18,991,461	2.0	23.18	18975	175,494,147	2.3	21.42
	Camrose City	14,290	21	207,641	1.5	14.53	201	3,638,107	1.4	25.46
	Edmonton City	616,306	1257	16,633,032	2.0	26.99	13866	159,067,125	2.2	25.81
	Grande Prairie City	31,140	119	726,949	3.8	23.34	1201	11,635,615	3.9	37.37
	Lethbridge City	66,035	210	1,240,032	3.2	18.78	1786	10,309,935	2.7	15.61
	Lloydminster City	11,317	16	723,935	1.4	63.97	224	5,562,162	2.0	49.15
	Medicine Hat City	46,783	114	1,641,444	2.4	35.09	1043	13,712,356	2.2	29.31
	Red Deer City	60,075	98	974,768	1.6	16.23	1112	13,702,816	1.9	22.81
	Wetaskiwin City	10,959	10	81,710	0.9	7.46	141	3,980,190	1.3	36.32
	St. Albert City	49,243	65	827,274	1.3	16.80	563	5,096,941	1.1	10.35
	Leduc City	14,305	14	248,942	1.0	17.40	179	2,785,449	1.3	19.47
	Airdrie City	15,948	18	2,094,214	1.0	131.33	201	11,904,538	1.3	74.66
	Ft. Saskatchewan City	13,109	20	483,789	1.5	36.91	262	6,035,673	2.0	46.04
	Spruce Grove City	14,271	23	1,184,082	1.6	82.97	233	3,817,840	1.6	26.75

Population figures for municipalities, including Indian Reserves, were obtained from the Department of Municipal Affairs, Local Government Services, Alberta Government.

SECTION 5



Glossary

Fire Commissioner's
Statistical Report

1 9 9 8

GLOSSARY

ACT OR OMISSION

The human element by which someone has done something (an act) or failed to do something (an omission). The act or omission indicates whether the fire was deliberate, neglectful or accidental.

Incendiary or Set Fires: includes arson, suspected incendiarism, riot, mischief or vandalism.

Misuse of Source of Ignition: includes disposal of smoker's material, thawing, inadequate control of an open fire, children playing with source of ignition, welding or cutting too close to combustible material or torch too close to combustible material.

Misuse of Material Ignited: includes fuel spilled accidentally, improper fuelling technique, cleaning or washing parts, improper container, overheated cooking oil, combustible placed too close to heat, and improper storage.

Mechanical and Electrical Failure or Malfunction: includes part failure, automatic or manual control failure, electrical short circuit and part worn out.

Construction, Design or Installation Deficiency: includes construction or design deficiency, installation too close to a combustible, other installation deficiency or over fusing.

Misuse of Equipment: overfuelling, includes any misuse of equipment or tools.

Human Failing: includes person asleep, temporary loss of judgement, physical disability, panic, influence of alcohol or drugs and ignorance of hazard.

AREA OF ORIGIN

The area of a building or vehicle where the fire started.

Means of Egress: the area allowing an individual transit or a way of going out. Includes hallway, stairway, escalator, lobby and elevator.

Assembly, Sales Area: areas where groups of people gather. Includes theatre, arena, lounge, living room, sales or show room, library, museum and sports facility.

Function Area: the area where a mode of action or activity is undertaken. Includes sleeping area, dining area, bar, washroom, office, laboratory, printing and photographic reproduction area, kitchen, laundry room, operating room, performance area and manufacturing area.

Storage Area: the area inside a building where items are stored. Includes product storage area, closet, equipment area, records storage area, shipping and receiving area, trash and rubbish area, vehicle garage and agricultural product storage area.

Service Facilities: conveyance items such as dumbwaiters, service shafts, laundry and garbage chutes, heating and cooking ducts and chimneys or gas vents.

Structural Area: includes crawl space, balcony, ceiling and floor assembly, wall assembly, exterior wall or exterior roof and awning or canopy.

Vehicle Area: includes engine area, fuel area, control area, passenger area and cargo area.

Outside Area: includes open area such as lawn, field or park, court, patio, parking area, outdoor storage area and trash or rubbish area.

DEATH

A person killed accidentally as a direct result of a fire or a person who dies from a fire injury within one year following the date on which the injury was sustained.

Fire Death: refers to a person who died as a direct result of a fire, either by smoke inhalation or burns.

Death Involving Fire: refers to a person who was in a place where fire occurred, but who may have died from a cause other than the fire itself (e.g. a person who dies in an automobile accident where the vehicle subsequently catches fire prior to death, a suicide by burning or asphyxia, an incendiary fire set for the specific reason of killing).

FUEL OR ENERGY

Is the fuel associated with the source of ignition. Includes coal, wood, fuel oil, gasoline, natural gas or other fuel gases, smoker's material, electricity, lightning or exposures.

IGNITION SCENARIO

The combination of three components: the source of ignition, material first ignited and act or omission: in the chain of events that lead to a fire.

A small number of ignition scenarios recur in the ignition of fires that account for the majority of fire incidents. Identification of these helps locate problems more specifically for the design of appropriate prevention strategies.

INJURIES

A person accidentally injured as a direct result of a fire (a member of the fire department accidentally injured while in the process of fighting a fire or injured as a result of an accident while en route to or returning from the scene of an actual fire is considered a fire action injury).

Minor Injury: an injury that does not require hospitalization of over a 24-hour period or absence from work of not more than one full day.

Light Injury: an injury that required admission to a hospital of over 24 hours up to 48 hours and/or absence from work for a period of two to fifteen days.

Serious Injury: an injury that required admission to a hospital for a period of more than 48 hours and/or an absence from work for a period exceeding fifteen days.

MATERIAL FIRST IGNITED

The actual material that ignites and creates the fire condition.

Structural Components, Finish Materials: includes roof covering, wall covering, floor covering, structural component, ceiling covering and insulation.

Furniture, Furnishings: includes furniture, ironing board, mattress, bedding, drapery and broom, mop or brush.
Clothing, Textiles: includes clothing, fabric, fur and tarpaulin.

Wood, Paper Products: includes wood, wood shavings, paper, cardboard and paper stock.

Flammable Liquids: includes gasoline, fuel oil, flammable liquids, paint, varnish, tar, asphalt, polish and wax.

Flammable Gases: includes natural gas, propane, anaesthetic gas, acetylene and hydrogen.

Chemicals: includes starch, flour, cellulose nitrate, plastic, oxidizing material, magnesium and alloys, titanium, natural or synthetic rubber and ammonium nitrate.

Agricultural, Forestry Products: includes fibres, grains, hay, trees, felled timber, grass, fertilizer and manure.

Miscellaneous: includes coal, garbage, trash, oily rags and artificial trees.

PROPERTY CLASSIFICATION

The principal use or occupancy of the building.

Assembly: property for the gathering of persons for civic, political, travel, religious, social, educational or recreational purposes. Includes theatres, amusement or recreation places, schools, colleges, universities, churches, social or sport clubs, libraries and museums, eating establishments and passenger terminals.

Institutional: property for medical treatment, or care of persons suffering from illness, disease or infirmity, for the care of infants, convalescents or aged persons and for penal or corrective purposes. Includes prisons, jails, reformatories, homes for the aged, children's hospitals, hospitals and clinics.

Residential: property in which sleeping accommodation is provided for normal residential purposes. Includes one and two family dwellings, apartments, rooming or boarding houses, hotels, motels, dormitories and mobile homes.

Business and Personal Service: property for conducting business. Includes offices, personal services such as hairdressing and data processing or storage facilities.

Mercantile: property used for the display and sale of merchandise. Includes food and beverage sales, textile and clothing sales, furniture and appliance sales, books and specialty sales, recreational and hobby supply sales, repair shops, laundries, vehicle and boat sales and department or variety stores.

Industrial Manufacturing Properties: property where raw materials are transformed into new products and where the component parts of manufactured products are assembled. Includes chemical, petroleum, paint and plastic manufacturing; wood, furniture, and paper manufacturing; metal product and electrical equipment manufacturing; food processing; beverage, tobacco, soap and margarine manufacturing; textile manufacturing; footwear and wearing apparel manufacturing; and vehicle and related equipment manufacturing.

Storage Properties: property used primarily for the storage or sheltering of goods, merchandise, products, vehicles, or animals. Includes agricultural product storage; textile, fibre and clothing storage; processed food and beverage storage; flammable liquids, gas and petroleum products storage; wood, furniture, and paper products storage; chemical, paint and plastic storage; metal products, machinery, and electrical appliance storage and vehicle storage.

Special Property: Transportation Equipment: mainly outdoor property and transport equipment. Includes outdoor property, piers, buildings under construction or demolition, watercraft, rail transport vehicles, ground transport vehicles, aircraft and other special equipment.

Miscellaneous: includes laboratories, farm facilities, outbuildings, utilities, glass and pottery manufacturing, mining, communications and nucleonics.

SOURCE OF IGNITION

The actual equipment, device or object which brings about ignition.

Cooking Equipment: includes stove, range, food warming appliance, deep fat fryer, broiler and portable cooking unit.

Heating Equipment: includes central heating unit, service water heater, space heater, fireplace, chimney, flue pipe and steam or hot water pipe.

Appliances and Equipment: includes dryer, air conditioning equipment, pressing iron and incinerator.

Smoker's Material and "Open" Flames: cigarettes, pipes, cigars and/or matches, lighters when used in conjunction with smoking. Includes matches and lighters not associated with smoker's material, candles, cutting torches, welding equipment and hot ashes.

Exposure: includes exposure from an attached or detached structure, lumber yard, open fire, forest, grass and brush.

Miscellaneous: includes internal combustion engine, heat treatment equipment, industrial oven, tar pot, fireworks, conveyors, commercial and industrial machinery and chemical reactions.